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Of Chemists and Chemical Engineers

Analysis of the
American Chemical Society's
Survey of Graduates in
Chemistry and Chemical Engineering

1987

1987 SURVEY REPORT

STARTING SALARIES AND EMPLOYMENT STATUS OF

CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES

This report was prepared by
ACS Statistical Services

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ACKNOWLEDGMENTS

Each year, at the direction of its Joint Board-Council Committee on Economic Status, the American Chemical Society surveys chemistry and chemical engineering graduates to determine trends in starting salaries and employment status. Herman Young of ACS Statistical Services, managed by John Robert Jones, conducted this year's survey and prepared this report.

Robert K. Neuman, Head
Department of Professional Services

SUMMARY OF FINDINGS

SALARIES

Salaries for inexperienced chemists and chemical engineers increased in 1987. Both chemistry and chemical engineering graduates experienced increases in average salaries for all degree levels, with the exception of PhD chemists, whose salaries declined slightly. The mean starting salary for inexperienced BS chemists was $20,407 in 1987, compared with $18,995 in 1986. The mean starting salary for inexperienced BS chemical engineers was $28,576 in 1987, compared with $26,899 in 1986.

Table 1 shows average starting salaries paid to inexperienced chemistry graduates for 1986 and 1987, and gives additional information concerning the variation among individual salaries within each group. Table 2 presents corresponding information for chemical engineering graduates.

For inexperienced chemists (those with less than 12 months of experience), 1987 mean starting salaries were:

$20,407 for the	BS,	up	7.4%,	or in constant dollars	up	3.0%
$26,758 for the	MS,	up	11.2%,	or in constant dollars	up	6.6%
$34,438 for the	PhD,	down	0.5%,	or in constant dollars	down	4.6%

Chemical engineers continue to receive larger starting salaries than do chemists with similar degrees. Among chemical engineers, the 1987 mean starting salaries were:

$28,576 for the	BS,	up	6.3%,	or in constant dollars	up	1.8%
$32,813 for the	MS,	up	9.4%,	or in constant dollars	up	4.9%
$42,721 for the	PhD,	up	8.2%,	or in constant dollars	up	3.7%

POST-GRADUATION EMPLOYMENT STATUS

The unemployment rate improved for chemical engineers, but not for chemists. At all degree levels, a smaller fraction of 1987 chemical engineering graduates than of 1986 graduates were unemployed during the summer after graduation. In chemistry, however, unemployment held at the 1986 rate for BS graduates and actually worsened slightly for recipients of MS and PhD degrees.

Unemployment of recent BS graduates was less severe in chemistry than it was in chemical engineering, but even in chemistry the problem was worse than the figures in Table 3 seem to indicate. To understand the extent of unemployment among new chemistry graduates requires an additional calculation. Because unemployment is defined as a fraction of the labor force, persons not seeking work are neither employed nor unemployed. An accurate reading of unemployment requires removing those not seeking employment from the denominator of the unemployment rate. Performing the calculation in this way yields larger unemployment rates among recipients of the bachelor's degree: 13% in chemistry and 16% in chemical engineering.

Table 1

STARTING YEARLY SALARIES
OF INEXPERIENCED FULL-TIME EMPLOYED
CHEMISTRY GRADUATES

by Degree: 1986 and 1987

Salaries	DEGREE LEVEL					
	Bachelor's		Master's		Ph.D.	
	1986	1987	1986	1987	1986	1987
90th Percentile	$25,000	$26,000	$32,000	$33,000	$42,000	$42,000
75th Percentile	22,250	24,000	28,500	30,000	40,000	40,150
50th Percentile	18,600	20,000	26,100	28,000	38,000	38,400
25th Percentile	15,000	17,500	20,500	22,500	32,000	30,650
10th Percentile	13,000	15,500	15,000	19,500	27,000	22,000
Mean	18,995	20,407	24,065	26,758	35,107	34,438
Count	175	291	20	59	43	105
Standard Deviation	6,744	4,322	7,697	5,723	8,781	8,243

Table 2

STARTING YEARLY SALARIES
OF INEXPERIENCED FULL-TIME EMPLOYED
CHEMICAL ENGINEERING GRADUATES

by Degree: 1986 and 1987

Salaries	DEGREE LEVEL					
	Bachelor's		Master's		Ph.D.	
	1986	1987	1986	1987	1986	1987
90th Percentile	$31,000	$31,450	$36,000	$36,000	$45,500	$47,000
75th Percentile	30,000	30,800	33,000	35,000	43,300	45,000
50th Percentile	28,360	30,000	31,000	32,500	41,500	43,000
25th Percentile	24,000	28,516	29,500	31,000	40,000	41,000
10th Percentile	20,000	23,900	22,000	28,300	30,000	39,100
Mean	26,899	28,576	29,996	32,813	39,485	42,721
Count	460	351	43	38	49	48
Standard Deviation	5,369	3,808	7,207	5,309	6,899	5,585

The recent history for unemployment calculated in this way is:

	1987	1986	1985	1984	1983	1982	1981
Chemical Engineering	16%	21%	22%	24%	42%	26%	8%
Chemistry	13%	13%	23%	27%	31%	21%	23%

PLANS FOR BS CHEMISTRY GRADUATES

For chemists emerging from BS programs, the road splits into three parts. A little more than a fifth go on to pursue advanced degrees in chemistry. The other four-fifths divide nearly evenly between full-time employment and advanced studies in fields other than chemistry. For 1987 BS chemistry graduates, Figure 1 shows these choices more precisely and details the post-graduation status within the three groups.

PLANS FOR ADVANCED STUDY and POSTDOCTORAL FELLOWSHIPS

A rough indicator of demand is postdoctoral fellows as a percent of new PhDs. Because some of the new doctoral chemists who accept postdoctoral fellowships would have preferred full-time employment, an increase in the fraction accepting such fellowships indicates insufficient full-time employment. This measure of demand indicates that the climate remains less than hospitable for both chemistry and chemical engineering graduates. Among chemistry graduates, 48% accepted postdoctoral positions in 1987 as compared with 47% in 1986. Among chemical engineering graduates, 17% accepted such positions in 1987 as compared with 13% in 1986.

This year's bachelor's degree recipients are more likely than last year's to have plans for full-time studies. The anticipated field of study has also shifted somewhat this year. Forty-six percent of this year's BS chemistry graduates plan either full-time or part-time study in chemistry; last year only 41% had such plans. Fewer BS chemistry graduates are choosing medicine, dentistry, or business this year than last. Among BS chemical engineering graduates, more are choosing chemical engineering majors this year than last. A summary of these plans appears in Tables 4 and 5.

CHEMISTRY GRADUATES WHO HAVE COMPLETED ACS APPROVED PROGRAMS

Graduates completing undergraduate chemistry programs approved by the ACS's Committee on Professional Training generally received higher starting salaries than graduates completing non-approved programs (see Table A-9). Among BS chemistry graduates planning full-time advanced study, approximately 38% planned to study medicine. Approximately 75% of those studying medicine were in non-approved programs (see Table C-5). The unemployment rate for graduates of approved programs was somewhat lower (10% versus 18%) than that for graduates of non-approved programs.

CHARACTERISTICS OF DEGREE-GRANTING INSTITUTIONS AND EMPLOYERS

In 1983 and 1984, the Starting Salary Survey attempted to account for the variation in salaries paid to new bachelor's degree recipients, primarily by analyzing salary differences according to characteristics of the degree-granting institutions and size of the employer. The results of these surveys indicate that, generally speaking, graduates receive higher salaries if their degrees are from schools that are large, grant graduate degrees, or were privately controlled, and that chemists and chemical engineers employed by larger firms generally received higher salaries than those employed by smaller firms.

Table 3

POSTGRADUATION STATUS OF CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES: FALL 1987

Major and Employment Status	Bachelor's	Master's	Doctorates
CHEMISTRY			
Full-time employed:			
In chemistry or chemical engineering	28.6%	53.3%	45.6%
Outside chemistry or chemical engineering	7.6%	3.3%	2.4%
Grad. asst./postdoctoral or other fellowship	29.9%	34.0%	47.9%
Unemployed and seeking full-time employment	10.0%	6.1%	2.7%
Unemployed and not seeking full-time employment	24.0%	3.3%	1.5%
Total	100.0	100.0	100.0
Number of responses	1,576	212	338
CHEMICAL ENGINEERING			
Full-time employed:			
In chemistry or chemical engineering	51.4%	42.5%	74.7%
Outside chemistry or chemical engineering	12.6%	10.5%	7.1%
Grad. asst./postdoctoral or other fellowship	15.4%	41.2%	17.2%
Unemployed and seeking full-time employment	15.5%	3.9%	1.0%
Unemployed and not seeking full-time employment	5.1%	2.0%	0.0%
Total	100.0	100.0	100.0
Number of responses	942	153	99

Table 4

PLANS FOR FURTHER STUDY OF B.S. CHEMISTRY
AND CHEMICAL ENGINEERING GRADUATES: FALL 1987

Plans	Chemistry	Chemical Engineering
Further studies	62.4%	30.0%
Full-time	(54.0%)	(20.6%)
Part-time	(8.4%)	(9.4%)
No plans for further studies	37.6%	70.0%
Total	100.0	100.0
Number of responses	1,584	943

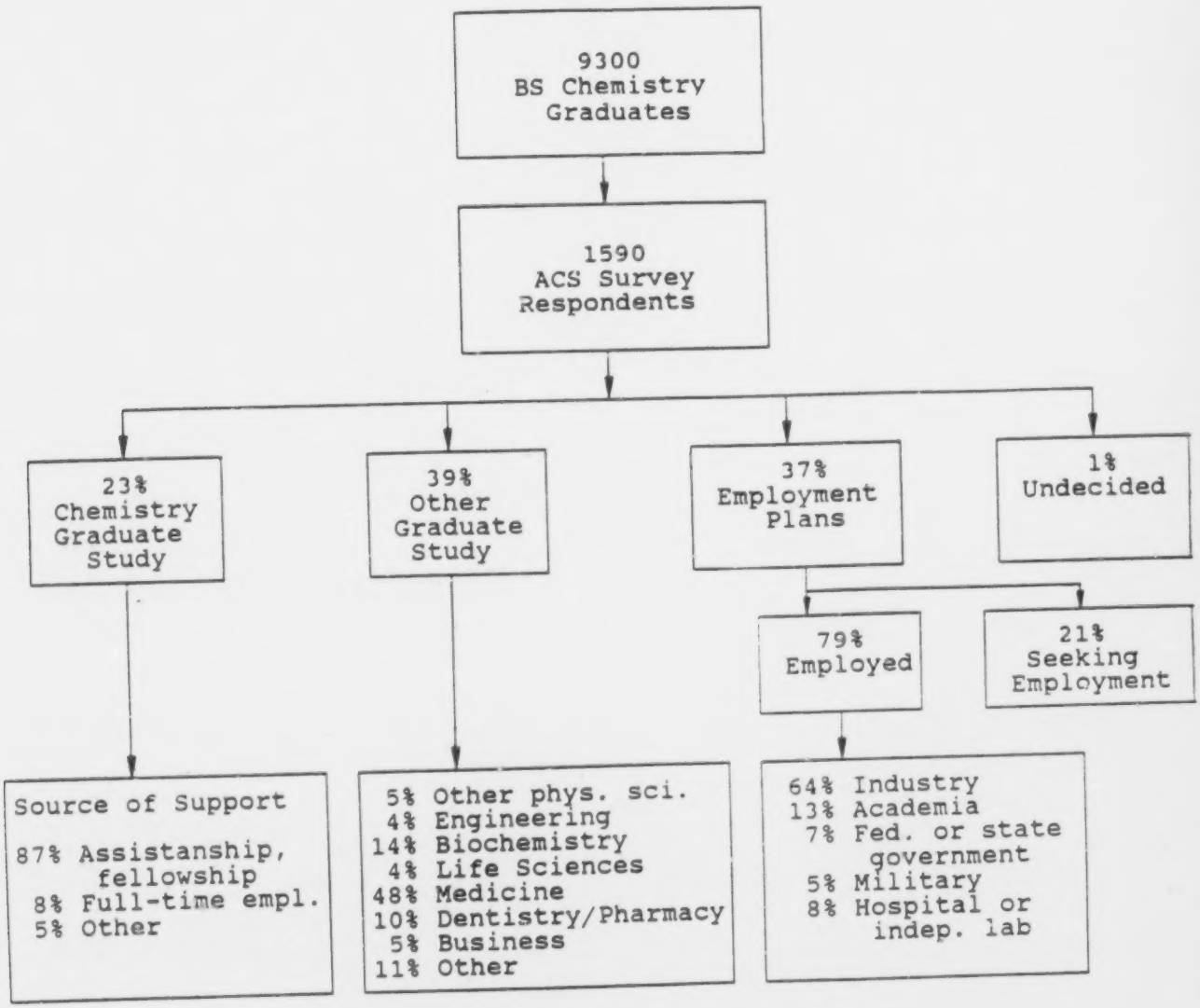
Table 5

FIELDS OF STUDY OF B.S. CHEMISTRY AND
CHEMICAL ENGINEERING GRADUATES WHO PLAN FURTHER STUDIES
Fall 1987

Field of Study	Chemistry	Chemical Engineering
FULL-TIME		
Chemistry or biochemistry	47.3%	2.6%
Chemical engineering	0.6%	64.6%
Medicine or dentistry	38.4%	7.8%
Business or management	1.1%	5.7%
All others	6.9%	19.3%
Total	100.0	100.0
Number of responses	804	192
PART-TIME		
Chemistry or biochemistry	35.8%	4.5%
Chemical engineering	4.5%	33.7%
Medicine or dentistry	4.5%	1.1%
Business or management	17.9%	36.9%
All others	37.2%	24.7%
Total	100.0	100.0
Number of responses	124	89

Figure 1

Post-graduation Plans of 1987 BS Chemistry Graduates



Source: 1987 ACS Starting Salary Survey.

A wider range of salaries exists for chemists than for chemical engineers, partly because the type and size of school from which the new BS graduates receive their degrees is more variable for chemists than for chemical engineers. Proportionately more chemists than chemical engineers are clustered at the lower end of the salary range because proportionately more chemists than chemical engineers are employed in firms with less than 500 employees.

These differences, along with more obvious ones, ought to be taken into account in any comparisons among salaries.

SCOPE AND METHOD

OBJECTIVES

The 1987 Starting Salary Survey was the 36th in the series of annual surveys now conducted by Statistical Services of the American Chemical Society. Summaries of the results of these surveys appear annually in the "Employment Outlook" edition of the *Chemical and Engineering News*. This year preliminary results were published on October 26.

The primary objective of the survey was to gather data on the starting salaries and occupational status of new chemists and chemical engineers who graduated during the 1986-87 academic year. The survey covered bachelor's, master's, and doctoral degree recipients. In addition, the survey provided information on graduates' sex, citizenship, and ethnicity.

METHOD OF COLLECTION AND TIMING OF SURVEY

Chemistry departments approved by the ACS and chemical engineering departments approved by the American Institute of Chemical Engineers and the Engineer's Council for Professional Development provided names and addresses of students that had graduated between September, 1986 and June, 1987. During the summer of 1987, ACS Statistical Services mailed questionnaires to those graduates who had U.S. addresses. Summer 1986 graduates were excluded from the mailing because many of them had twelve months of experience by the time the survey was conducted.

EXTENT OF COVERAGE

Survey questionnaires were mailed during June and July to approximately 10,000 graduates. By the cutoff date of October 26, Statistical Services had received 3,535 usable responses. No attempt was made to examine the characteristics of graduates from departments that did not participate in the survey or of those graduates who did not mail back completed questionnaires.

DEFINITIONS

The questionnaire appears at the end of this report. Responses to questions on post-graduation status were edited to eliminate multiple responses and to reflect as accurately as possible the employment status of the respondent.

The term "inexperienced" as used in the tables refers to those who have 12 months or less of prior professional work experience. The term "chemist" refers to one who received a degree in chemistry. The term "chemical engineer" refers to one who received a degree in chemical engineering. Salary tables are based only on salaries of those who found full-time employment in chemistry or chemical engineering. Postdoctoral salaries are analyzed separately. Salaries are reported in U.S. dollars.

The Technical Notes present methods for estimating sampling error and also explain certain discrepancies among some of the tables.

TECHNICAL NOTES

DISCREPANCIES AMONG TABLES

Because not all individuals responded to all of the survey items, some pairs of tables contain totals that should be identical but are not. For example, one table groups PhDs according to sex and another according to employer. The totals will differ unless the number who did not indicate their sex is the same as the number who did not indicate their employer.

ESTIMATES OF MEDIAN SALARIES

Median salaries displayed within the cells of the salary tables are sample medians and are therefore subject to sampling error. This error could be quite large, especially when the number of respondents in the corresponding cell is small. Therefore, median salaries in cells with fewer than 15 respondents should not be used to estimate their corresponding population medians. Similarly, tables showing the 25th and 75th salary percentiles, and those showing the 10th and 90th salary percentiles, should have at least 25 respondents and 40 respondents respectively.

COMPARING SALARIES

Often questions arise concerning women's salaries as compared with men's, or chemists' salaries as compared with chemical engineers'. These and similar comparisons require caution.

Statistical tests should be performed to determine whether observed differences in salaries of various sample groups could be mere chance occurrences resulting form peculiarities of the samples. Whether a difference in salaries is "statistically significant" depends not only on the magnitude of the difference but also on the sample sizes and the magnitudes of the sample standard deviations.

Statistical tests of significance may be found in *Numerical and Statistical Techniques*, by J. H. Pollard, in *Handbook of Tables for Probability and Statistics*, published by the Chemical Rubber Company, and in other similar texts.

ESTIMATING SAMPLING ERROR FOR PERCENTS

Percents in this report are derived from the sample. If the entire population had received and returned questionnaires, most estimates would be somewhat different. How much different? Although this question does not have an exact answer, the table below does provide some guidance. To use the table, find the column headed by the percent (p) derived from the sample, and find the row appropriate for the sample size (n). (Approximations for p and n may be used.) Note the number in that column and that row of the table.

This number from the body of the table measures the precision with which the sample percent estimates the percent of the entire population. Specifically, if this procedure is applied repeatedly, about 95 times out of 100, the population percent will differ from the sample percent by no more than the amount shown in the table.

Approximate Sampling Errors for Percents

n	p= 10% or 90%	p= 20% or 80%	p= 30% or 70%	p= 40% or 60%	p= 50%
50	8.3%	11.1%	12.7%	13.6%	13.9%
100	5.9	7.8	9.0	9.6	9.8
200	4.2	5.5	6.4	6.8	6.9
500	2.6	3.5	4.0	4.3	4.4
1000	1.9	2.5	2.8	3.0	3.1
2000	1.3	1.8	2.0	2.1	2.2
5000	0.8	1.1	1.3	1.4	1.4
10000	0.6	0.8	0.9	1.0	1.0

In Table B-1a for example, 450 respondents classified as chemists indicated their highest degree as the bachelor's degree, and their employment status as employed full-time in chemistry or chemical engineering. The percent of this group who are women is listed as 48.0 percent (p=48.0). A "95% confidence interval" for this percent may be approximated by taking n and p to be about 500 and 50%. The table shows an approximate sampling error of 4.4%. Hence, the 95% confidence interval is 43.6% to 52.4%. If estimates were made at this "level of confidence" from 100 similar samples, about 95 of the confidence intervals calculated from these samples would contain the true population percent.

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TABLE A-1

SALARIES of CHEMISTS employed FULL-TIME
according to DEGREE and EXPERIENCE
1987 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
WORK EXPERIENCE			
LESS THAN 12 MONTHS			
Median	20,000	28,000	38,400
Mean	20,407	26,758	34,938
Std Dev	4,322	5,723	8,243
Count	291	59	105
12 TO 36 MONTHS			
Median	20,750	24,100	37,300
Mean	21,235	24,369	34,737
Std Dev	4,724	6,148	8,906
Count	110	26	30
MORE THAN 36 MONTHS			
Median	25,700	30,200	38,700
Mean	26,519	31,448	35,829
Std Dev	5,190	5,727	9,351
Count	54	28	21
TOTAL			
Median	21,000	28,200	38,300
Mean	21,332	27,334	35,019
Std Dev	4,917	6,298	8,476
Count	455	113	156

TABLE A-2

SALARIES of CHEMICAL ENGINEERS employed FULL-TIME
according to DEGREE and EXPERIENCE
1987 ACS Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
WORK EXPERIENCE			
LESS THAN 12 MONTHS			
Median	30,000	32,500	43,100
Mean	28,576	32,813	42,721
Std Dev	3,808	5,309	5,585
Count	351	38	48
12 TO 36 MONTHS			
Median	30,600	29,900	45,500
Mean	29,754	29,025	43,828
Std Dev	2,705	5,394	7,053
Count	123	12	18
MORE THAN 36 MONTHS			
Median	30,000	41,000	43,500
Mean	29,792	39,327	41,850
Std Dev	2,964	5,553	4,455
Count	13	16	8
TOTAL			
Median	30,000	33,000	43,600
Mean	28,912	33,617	42,899
Std Dev	3,570	6,326	5,828
Count	487	66	74

TABLE A-3

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
In PRIVATE INDUSTRY according to SEX and DEGREE
1987 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
SEX			
MEN			
Median	21,350	28,950	40,000
Mean	21,872	28,314	39,606
Std Dev	4,473	5,409	3,211
Count	98	22	49
WOMEN			
Median	21,600	28,800	39,500
Mean	21,626	28,319	38,947
Std Dev	3,874	4,621	3,154
Count	82	21	20
TOTAL			
Median	21,500	28,800	39,900
Mean	21,759	28,316	39,422
Std Dev	4,200	4,980	3,186
Count	180	43	69

TABLE A-4

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME
In PRIVATE INDUSTRY according to SEX and DEGREE
1987 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
SEX			
MEN			
Median	30,150	33,500	43,050
Mean	29,244	33,832	43,444
Std Dev	2,808	5,779	2,389
Count	215	25	32
WOMEN			
Median	30,000	32,150	44,400
Mean	28,920	31,700	45,560
Std Dev	3,870	4,326	5,813
Count	99	6	6
TOTAL			
Median	30,000	33,000	43,500
Mean	29,141	33,419	43,730
Std Dev	3,179	5,529	3,034
Count	314	31	38

TABLE A-5

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
according to DEGREE and SEX
1987 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
SEX			
MEN			
Median	20,200	28,400	38,800
Mean	20,828	27,204	35,493
Std Dev	4,505	6,128	7,992
Count	146	28	73
WOMEN			
Median	19,600	27,500	37,500
Mean	19,977	26,355	33,417
Std Dev	4,143	5,401	8,872
Count	142	31	31
TOTAL			
Median	20,000	28,000	38,400
Mean	20,407	26,758	34,888
Std Dev	4,343	5,723	8,268
Count	288	59	104

TABLE A-6

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME
according to DEGREE and EMPLOYER
1987 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	21,500	28,800	39,900
Mean	21,737	28,316	39,430
Std Dev	4,170	4,980	3,163
Count	183	43	70
COLLEGE OR UNIVERSITY			
Median	16,500	19,750	23,000
Mean	16,590	18,850	24,637
Std Dev	3,103	2,290	8,080
Count	32	6	27
HIGH SCHOOL			
Median	16,500	19,700	---
Mean	16,467	19,667	---
Std Dev	2,835	3,650	---
Count	15	3	0
FEDERAL GOVERNMENT			
Median	19,200	25,400	39,100
Mean	19,700	25,400	39,100
Std Dev	2,459	4,101	0
Count	8	2	1
MILITARY			
Median	21,750	35,000	---
Mean	21,540	35,000	---
Std Dev	4,035	0	---
Count	10	1	0
STATE OR LOCAL GOVT			
Median	18,600	27,900	25,800
Mean	19,443	27,733	25,800
Std Dev	3,543	4,352	0
Count	7	3	1
HOSPITAL OR LAB			
Median	17,700	20,000	---
Mean	17,500	20,000	---
Std Dev	1,764	0	---
Count	27	1	0
OTHER			
Median	22,150	---	32,000
Mean	21,225	---	30,450
Std Dev	4,598	---	5,323
Count	8	0	6
TOTAL			
Median	20,000	28,000	38,400
Mean	20,379	26,758	34,938
Std Dev	4,302	5,723	8,243
Count	290	59	105

TABLE A-7

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME - MEN only
according to DEGREE and EMPLOYER
1987 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	21,350	28,950	40,000
Mean	21,872	28,314	39,606
Std Dev	4,473	5,409	3,211
Count	98	22	49
COLLEGE OR UNIVERSITY			
Median	16,550	16,450	25,000
Mean	17,092	16,450	26,410
Std Dev	3,445	2,899	8,534
Count	12	2	20
HIGH SCHOOL			
Median	16,000	19,700	---
Mean	16,114	19,700	---
Std Dev	2,270	0	---
Count	7	1	0
FEDERAL GOVERNMENT			
Median	17,600	---	39,100
Mean	17,633	---	39,100
Std Dev	651	---	0
Count	3	0	1
MILITARY			
Median	22,000	35,000	---
Mean	22,200	35,000	---
Std Dev	4,598	0	---
Count	7	1	0
STATE OR LOCAL GOVT			
Median	18,700	25,600	25,800
Mean	21,100	25,600	25,800
Std Dev	4,244	3,253	0
Count	3	2	1
HOSPITAL OR LAB			
Median	18,000	---	---
Mean	18,658	---	---
Std Dev	1,573	---	---
Count	13	0	0
OTHER			
Median	22,300	---	28,600
Mean	21,767	---	28,600
Std Dev	7,015	---	6,223
Count	3	0	2
TOTAL			
Median	20,200	28,400	38,800
Mean	20,828	27,204	35,493
Std Dev	4,505	6,128	7,992
Count	146	28	73

TABLE A-8

SALARIES of INEXPERIENCED CHEMISTS employed FULL-TIME - WOMEN only
according to DEGREE and EMPLOYER
1987 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	21,600	28,800	39,500
Mean	21,626	28,319	38,947
Std Dev	3,874	4,621	3,154
Count	82	21	20
COLLEGE OR UNIVERSITY			
Median	16,500	20,100	20,700
Mean	16,274	20,050	19,571
Std Dev	2,919	420	3,447
Count	20	4	7
HIGH SCHOOL			
Median	17,300	19,650	---
Mean	16,775	19,650	---
Std Dev	3,381	5,162	---
Count	8	2	0
FEDERAL GOVERNMENT			
Median	20,500	25,400	---
Mean	20,940	25,400	---
Std Dev	2,291	4,101	---
Count	5	2	0
MILITARY			
Median	21,000	---	---
Mean	20,000	---	---
Std Dev	2,179	---	---
Count	3	0	0
STATE OR LOCAL GOVT			
Median	17,900	32,000	---
Mean	18,200	32,000	---
Std Dev	2,880	0	---
Count	4	1	0
HOSPITAL OR LAB			
Median	16,400	20,000	---
Mean	16,507	20,000	---
Std Dev	1,261	0	---
Count	14	1	0
OTHER			
Median	22,000	---	32,000
Mean	20,900	---	31,375
Std Dev	3,470	---	5,558
Count	5	0	4
TOTAL			
Median	19,500	27,500	37,500
Mean	19,915	26,355	33,417
Std Dev	4,092	5,401	8,872
Count	141	31	31

TABLE A-9

SALARIES of INEXPERIENCED B.S. CHEMISTS employed FULL-TIME according to EMPLOYER and whether graduate completed ACS APPROVED CURRICULUM
1987 Starting Salary Survey

	CURRICULUM APPROVED?		
	YES	NO	TOTAL
EMPLOYER			
PRIVATE INDUSTRY			
Median	21,600	21,000	21,500
Mean	21,850	21,602	21,737
Std Dev	4,309	4,020	4,170
Count	98	85	183
COLLEGE OR UNIVERSITY			
Median	17,000	15,550	16,500
Mean	16,856	16,482	16,590
Std Dev	3,090	3,174	3,103
Count	9	23	32
HIGH SCHOOL			
Median	18,500	16,050	16,500
Mean	18,260	15,570	16,467
Std Dev	3,378	2,180	2,835
Count	5	10	15
FEDERAL GOVERNMENT			
Median	19,200	19,400	19,200
Mean	20,000	19,400	19,700
Std Dev	3,303	1,722	2,459
Count	4	4	8
MILITARY			
Median	18,400	22,000	21,750
Mean	19,840	23,240	21,540
Std Dev	4,024	3,635	4,035
Count	5	5	10
STATE OR LOCAL GOVT			
Median	17,800	20,300	18,600
Mean	17,167	21,150	19,443
Std Dev	1,930	3,682	3,543
Count	3	4	7
HOSPITAL OR LAB			
Median	18,000	17,000	17,700
Mean	18,071	16,833	17,500
Std Dev	1,953	1,289	1,764
Count	15	12	27
OTHER			
Median	23,100	18,800	22,150
Mean	22,900	18,433	21,225
Std Dev	4,535	3,763	4,598
Count	5	3	8
TOTAL			
Median	20,500	19,350	20,000
Mean	20,857	19,897	20,379
Std Dev	4,290	4,275	4,302
Count	144	146	290

TABLE A-10

SALARIES of INEXPERIENCED MS and PhD CHEMISTS employed FULL-TIME according to DEGREE and DEGREE SPECIALTY
1987 Starting Salary Survey

	HIGHEST DEGREE	
	MS	PHD
DEGREE SPECIALTY		
BIOCHEMISTRY		
Median	26,050	32,000
Mean	26,250	32,617
Std Dev	9,347	6,905
Count	6	6
ANALYTICAL		
Median	23,300	38,400
Mean	24,208	36,696
Std Dev	4,533	5,504
Count	13	27
INORGANIC		
Median	27,900	39,300
Mean	26,620	33,763
Std Dev	4,368	9,499
Count	5	19
ORGANIC		
Median	27,000	40,000
Mean	26,827	36,457
Std Dev	5,820	7,036
Count	22	36
PHYSICAL		
Median	29,000	32,000
Mean	29,214	31,440
Std Dev	3,224	11,052
Count	7	15
POLYMER		
Median	30,000	44,400
Mean	29,667	44,400
Std Dev	3,512	0
Count	3	1
OTHER CHEM		
Median	34,000	13,500
Mean	29,900	13,500
Std Dev	8,890	0
Count	3	1
TOTAL		
Median	28,000	38,400
Mean	26,758	34,938
Std Dev	5,723	8,243
Count	59	105

TABLE A-11

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME according to DEGREE and SEX
1987 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
SEX			
MEN			
Median	30,000	33,000	43,000
Mean	28,710	33,123	42,383
Std Dev	3,572	5,679	5,532
Count	239	30	42
WOMEN			
Median	30,000	31,900	44,400
Mean	28,371	31,650	45,560
Std Dev	4,211	3,667	5,813
Count	110	8	6
TOTAL			
Median	30,000	32,500	43,100
Mean	28,603	32,813	42,721
Std Dev	3,783	5,309	5,585
Count	349	38	48

TABLE A-12

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME according to DEGREE and EMPLOYER
1987 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	30,000	33,000	43,500
Mean	29,108	33,419	43,730
Std Dev	3,221	5,529	3,034
Count	316	31	38
COLLEGE OR UNIVERSITY			
Median	---	27,800	42,000
Mean	---	27,800	39,560
Std Dev	---	4,525	13,754
Count	0	2	5
FEDERAL GOVERNMENT			
Median	23,900	30,000	40,100
Mean	23,383	30,075	38,500
Std Dev	5,959	1,719	7,430
Count	18	4	3
MILITARY			
Median	24,000	---	---
Mean	24,000	---	---
Std Dev	0	---	---
Count	3	0	0
STATE OR LOCAL GOVT			
Median	21,700	---	---
Mean	22,000	---	---
Std Dev	4,027	---	---
Count	7	0	0
HOSPITAL OR LAB			
Median	---	---	43,600
Mean	---	---	43,600
Std Dev	---	---	0
Count	0	0	1
OTHER			
Median	26,500	35,000	33,000
Mean	26,543	35,000	33,000
Std Dev	4,166	0	0
Count	7	1	1
TOTAL			
Median	30,000	32,500	43,100
Mean	28,576	32,813	42,721
Std Dev	3,808	5,309	5,585
Count	351	38	48

TABLE A-13

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME - MEN only
according to DEGREE and EMPLOYER
1987 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	30,150	33,500	43,050
Mean	29,244	33,832	43,444
Std Dev	2,808	5,779	2,389
Count	215	25	32
COLLEGE OR UNIVERSITY			
Median	---	27,800	42,000
Mean	---	27,800	39,560
Std Dev	---	4,525	13,754
Count	0	2	5
FEDERAL GOVERNMENT			
Median	23,900	28,650	40,100
Mean	22,808	28,650	38,500
Std Dev	7,115	495	7,430
Count	12	2	3
MILITARY			
Median	24,000	---	---
Mean	24,000	---	---
Std Dev	0	---	---
Count	3	0	0
STATE OR LOCAL GOVT			
Median	22,400	---	---
Mean	23,175	---	---
Std Dev	2,382	---	---
Count	4	0	0
HOSPITAL OR LAB			
Median	---	---	43,600
Mean	---	---	43,600
Std Dev	---	---	0
Count	0	0	1
OTHER			
Median	26,500	35,000	33,000
Mean	26,980	35,000	33,000
Std Dev	4,172	0	0
Count	5	1	1
TOTAL			
Median	30,000	33,000	43,000
Mean	28,710	33,123	42,383
Std Dev	3,972	5,679	5,932
Count	239	30	42

TABLE A-14

SALARIES of INEXPERIENCED CHEMICAL ENGINEERS employed FULL-TIME - WOMEN only
according to DEGREE and EMPLOYER
1987 Starting Salary Survey

	HIGHEST DEGREE		
	BS	MS	PHD
EMPLOYER			
PRIVATE INDUSTRY			
Median	30,000	32,150	44,400
Mean	28,920	31,700	45,560
Std Dev	3,870	4,326	5,813
Count	99	6	6
COLLEGE OR UNIVERSITY			
Median	---	---	---
Mean	---	---	---
Std Dev	---	---	---
Count	0	0	0
FEDERAL GOVERNMENT			
Median	23,900	31,500	---
Mean	24,533	31,500	---
Std Dev	2,640	707	---
Count	6	2	0
MILITARY			
Median	---	---	---
Mean	---	---	---
Std Dev	---	---	---
Count	0	0	0
STATE OR LOCAL GOVT			
Median	21,700	---	---
Mean	20,433	---	---
Std Dev	5,805	---	---
Count	3	0	0
HOSPITAL OR LAB			
Median	---	---	---
Mean	---	---	---
Std Dev	---	---	---
Count	0	0	0
OTHER			
Median	25,450	---	---
Mean	25,450	---	---
Std Dev	5,586	---	---
Count	2	0	0
TOTAL			
Median	30,000	31,900	44,400
Mean	28,371	31,650	45,560
Std Dev	4,211	3,667	5,813
Count	110	8	6

TABLE B-1a

CHEMISTRY GRADUATES
according to EMPLOYMENT STATUS, SEX, and DEGREE
1987 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	SEX								
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
EMPLOYMENT STATUS									
Full-time in chemistry	234	216	450	69	44	113	111	43	154
Row Percent	52.0%	48.0%	100.0%	61.1%	38.9%	100.0%	72.1%	27.9%	100.0%
Column Percent	25.1%	33.6%	28.6%	53.1%	53.7%	53.3%	44.8%	47.8%	45.6%
Full-time in non-chemistry	72	48	120	2	5	7	7	1	8
Row Percent	60.0%	40.0%	100.0%	28.6%	71.4%	100.0%	87.5%	12.5%	100.0%
Column Percent	7.7%	7.5%	7.6%	1.5%	6.1%	3.3%	2.8%	1.1%	2.4%
Fellowship	290	181	471	49	23	72	122	40	162
Row Percent	61.6%	38.4%	100.0%	68.1%	31.9%	100.0%	75.3%	24.7%	100.0%
Column Percent	31.0%	28.2%	29.9%	37.7%	28.0%	34.0%	49.2%	44.4%	47.9%
Seeking employment	81	76	157	6	7	13	4	5	9
Row Percent	51.6%	48.4%	100.0%	46.2%	53.8%	100.0%	44.4%	55.6%	100.0%
Column Percent	8.7%	11.8%	10.0%	4.6%	8.5%	6.1%	1.6%	5.6%	2.7%
Not seeking employment	257	121	378	4	3	7	4	1	5
Row Percent	68.0%	32.0%	100.0%	57.1%	42.9%	100.0%	80.0%	20.0%	100.0%
Column Percent	27.5%	18.8%	24.0%	3.1%	3.7%	3.3%	1.6%	1.1%	1.5%
TOTAL	934	642	1576	130	82	212	248	90	338
Row Percent	59.3%	40.7%	100.0%	61.3%	38.7%	100.0%	73.4%	26.6%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE B-1b

CHEMISTRY GRADUATES
according to PLANS FOR FURTHER STUDIES IN FALL 1987, SEX, and DEGREE
1987 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	SEX								
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
FURTHER STUDIES									
NO PLANS	312	284	596	66	52	118	214	87	301
Row Percent	52.3%	47.7%	100.0%	55.9%	44.1%	100.0%	71.1%	28.9%	100.0%
Column Percent	33.3%	43.9%	37.6%	50.8%	62.7%	55.4%	85.3%	96.7%	88.3%
FULL-TIME	551	304	855	55	25	80	26	2	28
Row Percent	64.4%	35.6%	100.0%	68.8%	31.3%	100.0%	92.9%	7.1%	100.0%
Column Percent	58.8%	47.0%	54.0%	42.3%	30.1%	37.6%	10.4%	2.2%	8.2%
PART-TIME	74	59	133	9	6	15	11	1	12
Row Percent	55.6%	44.4%	100.0%	60.0%	40.0%	100.0%	91.7%	8.3%	100.0%
Column Percent	7.9%	9.1%	8.4%	6.9%	7.2%	7.0%	4.4%	1.1%	3.5%
TOTAL	937	647	1584	130	83	213	251	90	341
Row Percent	59.2%	40.8%	100.0%	61.0%	39.0%	100.0%	73.6%	26.4%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE B-2a

CHEMISTRY GRADUATES
according to EMPLOYMENT STATUS, CITIZENSHIP, and DEGREE
1987 Starting Salary Survey

	BACHELORS				MASTERS				DOCTORATE		
	CITIZENSHIP										
	US NATIVE	US NATURALIZED	PERMANENT RESIDENT	OTHER VISA	US NATIVE	US NATURALIZED	PERMANENT RESIDENT	OTHER VISA	US NATURALIZED	PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS											
Full-time in chemistry	434	17	4	0	95	5	8	5	6	2	10
Row Percent	95.4%	3.7%	.9%	0.0%	84.1%	4.4%	7.1%	4.4%	3.8%	1.3%	6.4%
Column Percent	29.2%	22.1%	20.0%	0.0%	56.5%	71.4%	72.7%	18.5%	42.9%	28.6%	20.4%
Full-time in non-chemistry	118	3	0	0	7	0	0	1	0	0	1
Row Percent	97.5%	2.5%	0.0%	0.0%	87.5%	0.0%	0.0%	12.5%	0.0%	0.0%	12.5%
Column Percent	7.9%	3.9%	0.0%	0.0%	4.2%	0.0%	0.0%	3.7%	0.0%	0.0%	2.0%
Fellowship	445	18	6	4	51	2	2	17	7	4	38
Row Percent	94.1%	3.8%	1.3%	.8%	70.8%	2.8%	2.8%	23.6%	4.3%	2.5%	23.3%
Column Percent	30.0%	23.4%	30.0%	66.7%	30.4%	28.6%	18.2%	63.0%	50.0%	57.1%	77.6%
Seeking employment	148	6	2	1	9	0	1	3	1	1	0
Row Percent	94.3%	3.8%	1.3%	.6%	69.2%	0.0%	7.7%	23.1%	11.1%	11.1%	0.0%
Column Percent	10.0%	7.8%	10.0%	16.7%	5.4%	0.0%	9.1%	11.1%	7.1%	14.3%	0.0%
Not seeking employment	340	33	8	1	6	0	0	1	0	0	0
Row Percent	89.0%	8.6%	2.1%	.3%	85.7%	0.0%	0.0%	14.3%	0.0%	0.0%	0.0%
Column Percent	22.9%	42.9%	40.0%	16.7%	3.6%	0.0%	0.0%	3.7%	0.0%	0.0%	0.0%
TOTAL	1485	77	20	6	168	7	11	27	14	7	49
Row Percent	93.5%	4.8%	1.3%	.4%	78.9%	3.3%	5.2%	12.7%	4.1%	2.1%	14.4%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE B-2b

CHEMISTRY GRADUATES
according to PLANS FOR FURTHER STUDIES IN FALL 1987, CITIZENSHIP, and DEGREE
1987 Starting Salary Survey

	BACHELORS				MASTERS				DOCTORATE			
	CITIZENSHIP OR VISA STATUS											
FURTHER STUDIES	US NATIVE	US NATURALIZED	PERMANENT RESIDENT	OTHER VISA	US NATIVE	US NATURALIZED	PERMANENT RESIDENT	OTHER VISA	US NATIVE	US NATURALIZED	PERMANENT RESIDENT	OTHER VISA
NO PLANS	580	18	2	1	102	4	7	6	242	14	7	41
Row Percent	96.5%	3.0%	.3%	.2%	85.7%	3.4%	5.9%	5.0%	79.6%	4.6%	2.3%	13.5%
Column Percent	38.9%	23.1%	10.0%	16.7%	60.4%	57.1%	63.6%	22.2%	88.6%	100.0%	100.0%	82.0%
FULL-TIME	790	52	14	5	58	2	2	18	22	0	0	6
Row Percent	91.8%	6.0%	1.6%	.6%	72.5%	2.5%	2.5%	22.5%	78.6%	0.0%	0.0%	21.4%
Column Percent	52.9%	66.7%	70.0%	83.3%	34.3%	28.6%	18.2%	66.7%	8.1%	0.0%	0.0%	12.0%
PART-TIME	122	8	4	0	9	1	2	3	9	0	0	3
Row Percent	91.0%	6.0%	3.0%	0.0%	60.0%	6.7%	13.3%	20.0%	75.0%	0.0%	0.0%	25.0%
Column Percent	8.2%	10.3%	20.0%	0.0%	5.3%	14.3%	18.2%	11.1%	3.3%	0.0%	0.0%	6.0%
TOTAL	1492	78	20	6	169	7	11	27	273	14	7	50
Row Percent	93.5%	4.9%	1.3%	.4%	79.0%	3.3%	5.1%	12.6%	79.4%	4.1%	2.0%	14.5%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE B-3a

CHEMISTRY GRADUATES
according to EMPLOYMENT STATUS, ETHNICITY, and DEGREE
1987 Starting Salary Survey

	BACHELORS						MASTERS						DOCTORATE					
	RACIAL OR ETHNIC GROUP																	
	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN	OTHER	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN	OTHER	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN	OTHER
EMPLOYMENT STATUS																		
Full-time in chemistry	411	8	9	0	16	11	90	2	4	0	14	3	137	3	3	0	12	1
Row Percent	90.3%	1.8%	2.0%	0.0%	3.5%	2.4%	79.6%	1.8%	3.5%	0.0%	12.4%	2.7%	87.8%	1.9%	1.9%	0.0%	7.7%	.6%
Column Percent	28.7%	27.6%	37.5%	0.0%	19.0%	68.8%	54.5%	66.7%	66.7%	0.0%	42.4%	60.0%	48.2%	50.0%	75.0%	0.0%	26.7%	50.0%
Full-time in non-chemistry	113	0	4	0	3	1	8	0	0	0	0	0	7	0	0	0	1	0
Row Percent	93.4%	0.0%	3.3%	0.0%	2.5%	.8%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	87.5%	0.0%	0.0%	0.0%	12.5%	0.0%
Column Percent	7.9%	0.0%	16.7%	0.0%	3.6%	6.3%	4.8%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	0.0%	0.0%	0.0%	2.2%	0.0%
Fellowship	436	8	3	1	24	1	53	1	1	1	14	2	127	3	1	0	31	1
Row Percent	92.2%	1.7%	.6%	.2%	5.1%	.2%	73.6%	1.4%	1.4%	1.4%	19.4%	2.8%	77.9%	1.8%	.6%	0.0%	19.0%	.6%
Column Percent	30.4%	27.6%	12.5%	33.3%	28.6%	6.3%	32.1%	33.3%	16.7%	100.0%	42.4%	40.0%	44.7%	50.0%	25.0%	0.0%	68.9%	50.0%
Seeking employment	139	4	2	2	8	2	9	0	0	0	4	0	8	0	0	0	1	0
Row Percent	88.5%	2.5%	1.3%	1.3%	5.1%	1.3%	69.2%	0.0%	0.0%	0.0%	30.8%	0.0%	88.9%	0.0%	0.0%	0.0%	11.1%	0.0%
Column Percent	9.7%	13.8%	8.3%	66.7%	9.5%	12.5%	5.5%	0.0%	0.0%	0.0%	12.1%	0.0%	2.8%	0.0%	0.0%	0.0%	2.2%	0.0%
Not seeking employment	333	9	6	0	33	1	5	0	1	0	1	0	5	0	0	0	0	0
Row Percent	87.2%	2.4%	1.6%	0.0%	8.6%	.3%	71.4%	0.0%	14.3%	0.0%	14.3%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	23.3%	31.0%	25.0%	0.0%	39.3%	6.3%	3.0%	0.0%	16.7%	0.0%	3.0%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%
TOTAL	1432	29	24	3	84	16	165	3	6	1	33	5	284	6	4	0	45	2
Row Percent	90.2%	1.8%	1.5%	.2%	5.3%	1.0%	77.5%	1.4%	2.8%	.5%	15.5%	2.3%	83.3%	1.8%	1.2%	0.0%	13.2%	.6%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%	100.0%

TABLE B-3b

CHEMISTRY GRADUATES
according to PLANS FOR FURTHER STUDIES IN FALL 1987, RACE, and DEGREE
1987 Starting Salary Survey

	BACHELORS						MASTERS						DOCTORATE					
	RACIAL OR ETHNIC GROUP																	
FURTHER STUDIES	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN	OTHER	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN	OTHER	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN	OTHER
NO PLANS	550	9	12	2	19	9	100	2	3	0	11	3	254	6	4	0	38	2
Row Percent	91.5%	1.5%	2.0%	.3%	3.2%	1.5%	84.0%	1.7%	2.5%	0.0%	9.2%	2.5%	83.6%	2.0%	1.3%	0.0%	12.5%	.7
Column Percent	38.2%	31.0%	48.0%	66.7%	22.4%	56.3%	60.2%	66.7%	50.0%	0.0%	33.3%	60.0%	88.8%	100.0%	100.0%	0.0%	82.6%	100.0
FULL-TIME	771	18	10	1	59	2	58	1	2	1	16	2	22	0	0	0	6	0
Row Percent	89.5%	2.1%	1.2%	.1%	6.9%	.2%	72.5%	1.3%	2.5%	1.3%	20.0%	2.5%	78.6%	0.0%	0.0%	0.0%	21.4%	0.0
Column Percent	53.6%	62.1%	40.0%	33.3%	69.4%	12.5%	34.9%	33.3%	33.3%	100.0%	48.5%	40.0%	7.7%	0.0%	0.0%	0.0%	13.0%	0.0
PART-TIME	117	2	3	0	7	5	8	0	1	0	6	0	10	0	0	0	2	0
Row Percent	87.3%	1.5%	2.2%	0.0%	5.2%	3.7%	53.3%	0.0%	6.7%	0.0%	40.0%	0.0%	83.3%	0.0%	0.0%	0.0%	16.7%	0.0
Column Percent	8.1%	6.9%	12.0%	0.0%	8.2%	31.3%	4.8%	0.0%	16.7%	0.0%	18.2%	0.0%	3.5%	0.0%	0.0%	0.0%	4.3%	0.0
TOTAL	1438	29	25	3	85	16	166	3	6	1	33	5	286	6	4	0	46	2
Row Percent	90.1%	1.8%	1.6%	.2%	5.3%	1.0%	77.6%	1.4%	2.8%	.5%	15.4%	2.3%	83.1%	1.7%	1.2%	0.0%	11.4%	.6
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%	100.0

TABLE B-4a

BACHELORS CHEMISTRY GRADUATES
according to EMPLOYMENT STATUS and whether graduate completed
ACS APPROVED CURRICULUM
1987 Starting Salary Survey

	CURRICULUM APPROVED?	
	YES	NO
EMPLOYMENT STATUS		
Full-time in chemistry	228	227
Row Percent	50.1%	49.9%
Column Percent	32.0%	25.9%
Full-time in non-chemistry	40	81
Row Percent	33.1%	66.9%
Column Percent	5.6%	9.3%
Fellowship	301	172
Row Percent	63.6%	36.4%
Column Percent	42.2%	19.7%
Seeking employment	44	113
Row Percent	28.0%	72.0%
Column Percent	6.2%	12.9%
Not seeking employment	100	282
Row Percent	26.2%	73.8%
Column Percent	14.0%	32.2%
TOTAL	713	875
Row Percent	44.9%	55.1%
Column Percent	100.0%	100.0%

TABLE B-4b

BACHELORS CHEMISTRY GRADUATES
according to PLANS FOR FURTHER STUDIES IN FALL 1987 and
whether graduate completed ACS APPROVED CURRICULUM
1987 Starting Salary Survey

	CURRICULUM APPROVED?		
	YES	NO	
FURTHER STUDIES			
NO PLANS	261	340	56
Row Percent	43.4%	56.6%	.3%
Column Percent	36.6%	38.5%	.6%
FULL-TIME	399	462	14
Row Percent	46.3%	53.7%	.0%
Column Percent	55.9%	52.4%	.0%
PART-TIME	54	80	6
Row Percent	40.3%	59.7%	.0%
Column Percent	7.6%	9.1%	.4%
TOTAL	714	882	76
Row Percent	44.7%	55.3%	.2%
Column Percent	100.0%	100.0%	.0%

TABLE B-5

MASTER'S CHEMISTRY GRADUATES
according to EMPLOYMENT STATUS, DEGREE SPECIALTY
1987 Starting Salary Survey

	EMPLOYMENT STATUS				
	FT in chem	FT in nonchem	Fellow-ship	Seeking empl	Not seek empl
FIELD OF HIGHEST DEGREE					
BIOCHEMISTRY	10	0	6	3	0
Row Percent	52.6%	0.0%	31.6%	15.8%	0.0%
Column Percent	8.8%	0.0%	8.3%	23.1%	0.0%
ANALYTICAL	24	2	9	3	1
Row Percent	61.5%	5.1%	23.1%	7.7%	2.6%
Column Percent	21.2%	25.0%	12.5%	23.1%	14.3%
INORGANIC	10	1	11	1	2
Row Percent	40.0%	4.0%	44.0%	4.0%	8.0%
Column Percent	8.8%	12.5%	15.3%	7.7%	28.6%
ORGANIC	40	2	25	4	2
Row Percent	54.8%	2.7%	34.2%	5.5%	2.7%
Column Percent	35.4%	25.0%	34.7%	30.8%	28.6%
PHYSICAL	10	3	16	0	2
Row Percent	32.3%	9.7%	51.6%	0.0%	6.5%
Column Percent	8.8%	37.5%	22.2%	0.0%	28.6%
POLYMER	11	0	2	2	0
Row Percent	73.3%	0.0%	13.3%	13.3%	0.0%
Column Percent	9.7%	0.0%	2.8%	15.4%	0.0%
OTHER CHEM	8	0	3	0	0
Row Percent	72.7%	0.0%	27.3%	0.0%	0.0%
Column Percent	7.1%	0.0%	4.2%	0.0%	0.0%
TOTAL	113	8	72	13	7
Row Percent	53.1%	3.8%	33.8%	6.1%	3.3%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE B-6

PHD CHEMISTRY GRADUATES
according to EMPLOYMENT STATUS, DEGREE SPECIALTY
1987 Starting Salary Survey

	EMPLOYMENT STATUS				
	FT In chem	FT In nonchem	Fellow-ship	Seeking empl	Not Seek empl
FIELD OF HIGHEST DEGREE					
BIOCHEMISTRY	9	1	19	1	2
Row Percent	28.1%	3.1%	59.4%	3.1%	6.3%
Column Percent	5.8%	12.5%	11.7%	11.1%	40.0%
ANALYTICAL	37	0	17	1	1
Row Percent	66.1%	0.0%	30.4%	1.8%	1.8%
Column Percent	23.7%	0.0%	10.4%	11.1%	20.0%
INORGANIC	26	0	27	2	0
Row Percent	47.3%	0.0%	49.1%	3.6%	0.0%
Column Percent	16.7%	0.0%	16.6%	22.2%	0.0%
ORGANIC	54	1	61	1	2
Row Percent	45.4%	.8%	51.3%	.8%	1.7%
Column Percent	34.6%	12.5%	37.4%	11.1%	40.0%
PHYSICAL	24	4	37	2	0
Row Percent	35.8%	6.0%	55.2%	3.0%	0.0%
Column Percent	15.4%	50.0%	22.7%	22.2%	0.0%
POLYMER	1	2	1	1	0
Row Percent	20.0%	40.0%	20.0%	20.0%	0.0%
Column Percent	.6%	25.0%	.6%	11.1%	0.0%
OTHER CHEM	5	0	1	1	0
Row Percent	71.4%	0.0%	14.3%	14.3%	0.0%
Column Percent	3.2%	0.0%	.6%	11.1%	0.0%
TOTAL	156	8	163	9	5
Row Percent	45.7%	2.3%	47.8%	2.6%	1.5%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE B-7a

CHEMICAL ENGINEERING GRADUATES
according to EMPLOYMENT STATUS, SEX, and DEGREE
1987 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	SEX								
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
EMPLOYMENT STATUS									
Full-time in chemistry	337	147	484	52	13	65	65	9	74
Row Percent	69.6%	30.4%	100.0%	80.0%	20.0%	100.0%	87.8%	12.2%	100.0%
Column Percent	50.8%	52.7%	51.4%	41.6%	46.4%	42.5%	77.4%	60.0%	74.7%
Full-time in non-chemistry	85	34	119	13	3	16	4	3	7
Row Percent	71.4%	28.6%	100.0%	81.3%	18.8%	100.0%	57.1%	42.9%	100.0%
Column Percent	12.8%	12.2%	12.6%	10.4%	10.7%	10.5%	4.8%	20.0%	7.1%
Fellowship	102	43	145	54	9	63	14	3	17
Row Percent	70.3%	29.7%	100.0%	85.7%	14.3%	100.0%	82.4%	17.6%	100.0%
Column Percent	15.4%	15.4%	15.4%	43.2%	32.1%	41.2%	16.7%	20.0%	17.2%
Seeking employment	101	45	146	4	2	6	1	0	1
Row Percent	69.2%	30.8%	100.0%	66.7%	33.3%	100.0%	100.0%	0.0%	100.0%
Column Percent	15.2%	16.1%	15.5%	3.2%	7.1%	3.9%	1.2%	0.0%	1.0%
Not seeking employment	38	10	48	2	1	3	0	0	0
Row Percent	79.2%	20.8%	100.0%	66.7%	33.3%	100.0%	0.0%	0.0%	0.0%
Column Percent	5.7%	3.6%	5.1%	1.6%	3.6%	2.0%	0.0%	0.0%	0.0%
TOTAL	663	279	942	125	28	153	84	15	99
Row Percent	70.4%	29.6%	100.0%	81.7%	18.3%	100.0%	84.8%	15.2%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE B-7b

CHEMICAL ENGINEERING GRADUATES
according to PLANS FOR FURTHER STUDIES IN FALL 1987, SEX, and DEGREE
1987 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	SEX								
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
FURTHER STUDIES									
NO PLANS	460	200	660	60	16	76	79	13	92
Row Percent	69.7%	30.3%	100.0%	78.9%	21.1%	100.0%	85.9%	14.1%	100.0%
Column Percent	69.3%	71.7%	70.0%	48.0%	57.1%	49.7%	92.9%	86.7%	92.0%
FULL-TIME	139	55	194	54	10	64	5	1	6
Row Percent	71.6%	28.4%	100.0%	84.4%	15.6%	100.0%	83.3%	16.7%	100.0%
Column Percent	20.9%	19.7%	20.6%	43.2%	35.7%	41.8%	5.9%	6.7%	6.0%
PART-TIME	65	24	89	11	2	13	1	1	2
Row Percent	73.0%	27.0%	100.0%	84.6%	15.4%	100.0%	50.0%	50.0%	100.0%
Column Percent	9.8%	8.6%	9.4%	8.8%	7.1%	8.5%	1.2%	6.7%	2.0%
TOTAL	664	279	943	125	28	153	85	15	100
Row Percent	70.4%	29.6%	100.0%	81.7%	18.3%	100.0%	85.0%	15.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE B-8a

CHEMICAL ENGINEERING GRADUATES
according to EMPLOYMENT STATUS, CITIZENSHIP, and DEGREE
1987 Starting Salary Survey

	BACHELORS				MASTERS				DOCTORATE			
	CITIZENSHIP											
	US NATIVE	US NATURALIZED	PERMANENT RESIDENT	OTHER VISA	US NATIVE	US NATURALIZED	PERMANENT RESIDENT	OTHER VISA	US NATIVE	US NATURALIZED	PERMANENT RESIDENT	OTHER VISA
EMPLOYMENT STATUS												
Full-time in chemistry	474	7	4	2	51	3	5	7	52	2	7	13
Row Percent	97.3%	1.4%	.8%	.4%	77.3%	4.5%	7.6%	10.6%	70.3%	2.7%	9.5%	17.6%
Column Percent	52.8%	25.0%	30.8%	33.3%	45.9%	42.9%	55.6%	25.9%	74.3%	66.7%	100.0%	68.4%
Full-time in non-chemistry	114	5	0	0	14	1	0	1	6	0	0	1
Row Percent	95.8%	4.2%	0.0%	0.0%	87.5%	6.3%	0.0%	6.3%	85.7%	0.0%	0.0%	14.3%
Column Percent	12.7%	17.9%	0.0%	0.0%	12.6%	14.3%	0.0%	3.7%	8.6%	0.0%	0.0%	5.3%
Fellowship	137	4	3	1	39	3	3	18	11	1	0	5
Row Percent	94.5%	2.8%	2.1%	.7%	61.9%	4.8%	4.8%	28.6%	64.7%	5.9%	0.0%	29.4%
Column Percent	15.3%	14.3%	23.1%	16.7%	35.1%	42.9%	33.3%	66.7%	15.7%	33.3%	0.0%	26.3%
Seeking Employment	130	9	6	1	5	0	0	1	1	0	0	0
Row Percent	89.0%	6.2%	4.1%	.7%	83.3%	0.0%	0.0%	16.7%	88.8%	0.0%	0.0%	0.0%
Column Percent	14.5%	32.1%	46.2%	16.7%	4.5%	0.0%	0.0%	3.7%	1.4%	0.0%	0.0%	0.0%
Not seeking employment	43	3	0	2	2	0	1	0	0	0	0	0
Row Percent	89.6%	6.3%	0.0%	4.2%	66.7%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	4.8%	10.7%	0.0%	33.3%	1.8%	0.0%	11.1%	0.0%	0.0%	0.0%	0.0%	0.0%
TOTAL	898	28	13	6	111	7	9	27	70	3	7	19
Row Percent	95.0%	3.0%	1.4%	.6%	72.1%	4.5%	5.8%	17.5%	70.7%	3.0%	7.1%	19.2%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	00.0%	100.0%	100.0%	100.0%

TABLE B-8b

CHEMICAL ENGINEERING GRADUATES
according to PLANS FOR FURTHER STUDIES IN FALL 1987, CITIZENSHIP, and DEGREE
1987 Starting Salary Survey

	BACHELORS				MASTERS				DOCTORATE			
	CITIZENSHIP											
FURTHER STUDIES	US NATIVE	US NATURALIZED	PERMANENT RESIDENT	OTHER VISA	US NATIVE	US NATURALIZED	PERMANENT RESIDENT	OTHER VISA	US NATIVE	US NATURALIZED	PERMANENT RESIDENT	OTHER VISA
NO PLANS	637	16	7	2	61	3	5	8	63	3	7	19
Row Percent	96.2%	2.4%	1.1%	.3%	79.2%	3.9%	6.5%	10.4%	68.5%	3.3%	7.6%	20.7%
Column Percent	70.9%	57.1%	53.8%	33.3%	55.0%	42.9%	55.6%	29.6%	90.0%	100.0%	100.0%	95.0%
FULL-TIME	179	7	4	4	40	3	4	17	5	0	0	1
Row Percent	92.3%	3.6%	2.1%	2.1%	62.5%	4.7%	6.3%	26.6%	83.3%	0.0%	0.0%	16.7%
Column Percent	19.9%	25.0%	30.8%	66.7%	36.0%	42.9%	44.4%	63.0%	7.1%	0.0%	0.0%	5.0%
PART-TIME	83	5	2	0	10	1	0	2	2	0	0	0
Row Percent	92.2%	5.6%	2.2%	0.0%	76.9%	7.7%	0.0%	15.4%	100.0%	0.0%	0.0%	0.0%
Column Percent	9.2%	17.9%	15.4%	0.0%	9.0%	14.3%	0.0%	7.4%	2.9%	0.0%	0.0%	0.0%
TOTAL	899	28	13	6	111	7	9	27	70	3	7	20
Row Percent	95.0%	3.0%	1.4%	.6%	72.1%	4.5%	5.8%	17.5%	70.0%	3.0%	7.0%	20.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE B-9a

CHEMICAL ENGINEERING GRADUATES
according to EMPLOYMENT STATUS, ETHNICITY, and DEGREE
1997 Starting Salary Survey

	BACHELORS						MASTERS						DOCTORATE				
	RACIAL OR ETHNIC GROUP																
	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN	OTHER	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN	OTHER	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN
EMPLOYMENT STATUS																	
Full-time in chemistry	456	6	7	1	15	2	51	2	3	0	10	0	53	1	1	0	17
Row Percent	93.6%	1.2%	1.4%	.2%	3.1%	.4%	77.3%	3.0%	4.5%	0.0%	15.2%	0.0%	71.6%	1.4%	1.4%	0.0%	23.0%
Column Percent	53.1%	42.9%	46.7%	100.0%	29.4%	33.3%	42.9%	100.0%	60.0%	0.0%	38.5%	0.0%	74.6%	50.0%	100.0%	0.0%	81.0%
Full-time in non-chemistry	107	3	1	0	7	1	14	0	1	0	1	0	6	0	0	0	0
Row Percent	89.9%	2.5%	.8%	0.0%	5.9%	.8%	87.5%	0.0%	6.3%	0.0%	6.3%	0.0%	85.7%	0.0%	0.0%	0.0%	0.0%
Column Percent	12.5%	21.4%	6.7%	0.0%	13.7%	16.7%	11.8%	0.0%	20.0%	0.0%	3.8%	0.0%	8.5%	0.0%	0.0%	0.0%	0.0%
Fellowship	126	3	4	0	11	1	46	0	1	0	14	2	11	1	0	0	4
Row Percent	86.9%	2.1%	2.8%	0.0%	7.6%	.7%	73.0%	0.0%	1.6%	0.0%	22.2%	3.2%	64.7%	5.9%	0.0%	0.0%	23.5%
Column Percent	14.7%	21.4%	26.7%	0.0%	21.6%	16.7%	38.7%	0.0%	20.0%	0.0%	53.8%	100.0%	15.5%	50.0%	0.0%	0.0%	19.0%
Seeking employment	120	1	3	0	12	2	6	0	0	0	0	0	1	0	0	0	0
Row Percent	87.7%	.7%	2.1%	0.0%	8.2%	1.4%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	14.9%	7.1%	20.0%	0.0%	23.5%	33.3%	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%
Not seeking employment	41	1	0	0	6	0	2	0	0	0	1	0	0	0	0	0	0
Row Percent	85.4%	2.1%	0.0%	0.0%	12.5%	0.0%	66.7%	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	4.8%	7.1%	0.0%	0.0%	11.8%	0.0%	1.7%	0.0%	0.0%	0.0%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
TOTAL	850	14	15	1	51	6	119	2	5	0	26	2	71	2	1	0	21
Row Percent	90.0%	1.5%	1.6%	.1%	5.4%	.6%	77.3%	1.3%	3.2%	0.0%	16.9%	1.3%	71.7%	2.0%	1.0%	0.0%	21.2%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%

TABLE B-9b

CHEMICAL ENGINEERING GRADUATES
according to PLANS FOR FURTHER STUDIES IN FALL 1987, RACE, and DEGREE
1987 Starting Salary Survey

	BACHELORS						MASTERS						DOCTORATE				
	RACIAL OR ETHNIC GROUP																
	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN	OTHER	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN	OTHER	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN
FURTHER STUDIES																	
NO PLANS	609	10	9	1	31	2	62	2	2	0	11	0	64	2	1	0	21
Row Percent	92.0%	1.5%	1.4%	.2%	4.7%	.3%	80.5%	2.6%	2.6%	0.0%	14.3%	0.0%	69.6%	2.2%	1.1%	0.0%	22.8%
Column Percent	70.9%	71.4%	60.0%	100.0%	60.8%	33.3%	52.1%	100.0%	40.0%	0.0%	42.3%	0.0%	90.1%	100.0%	100.0%	0.0%	95.5%
FULL-TIME	165	4	5	0	17	3	45	0	2	0	15	2	5	0	0	0	1
Row Percent	85.1%	2.1%	2.6%	0.0%	8.8%	1.5%	70.3%	0.0%	3.1%	0.0%	23.4%	3.1%	83.3%	0.0%	0.0%	0.0%	16.7%
Column Percent	19.2%	28.6%	33.3%	0.0%	33.3%	50.0%	37.8%	0.0%	40.0%	0.0%	57.7%	100.0%	7.0%	0.0%	0.0%	0.0%	4.5%
PART-TIME	85	0	1	0	3	1	12	0	1	0	0	0	2	0	0	0	0
Row Percent	94.4%	0.0%	1.1%	0.0%	3.3%	1.1%	92.3%	0.0%	7.7%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	9.9%	0.0%	6.7%	0.0%	5.9%	16.7%	10.1%	0.0%	20.0%	0.0%	0.0%	0.0%	2.8%	0.0%	0.0%	0.0%	0.0%
TOTAL	859	14	15	1	51	6	119	2	5	0	26	2	71	2	1	0	22
Row Percent	90.8%	1.5%	1.6%	.1%	5.4%	.6%	77.3%	1.3%	3.2%	0.0%	16.9%	1.3%	71.0%	2.0%	1.0%	0.0%	22.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%

TABLE C-1

CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1987
according to FIELD OF ADVANCED STUDY, SEX, and DEGREE
1987 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	SEX								
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
STUDY FIELD									
CHEMISTRY	20	13	33	5	2	7	3	0	3
Row Percent	60.6%	39.4%	100.0%	71.4%	28.6%	100.0%	100.0%	0.0%	100.0%
Column Percent	27.0%	22.0%	24.8%	55.6%	33.3%	46.7%	27.3%	0.0%	25.0%
OTHER PHYSICAL SCIENCE	8	2	10	0	1	1	0	0	0
Row Percent	80.0%	20.0%	100.0%	0.0%	100.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	10.8%	3.4%	7.5%	0.0%	16.7%	6.7%	0.0%	0.0%	0.0%
CHEMICAL ENGINEERING	3	3	6	0	0	0	0	0	0
Row Percent	50.0%	50.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	4.1%	5.1%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
OTHER ENGINEERING	4	4	8	0	0	0	2	0	2
Row Percent	50.0%	50.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Column Percent	5.4%	6.8%	6.0%	0.0%	0.0%	0.0%	18.2%	0.0%	16.7%
BIOCHEMISTRY	7	8	15	0	1	1	1	0	1
Row Percent	46.7%	53.3%	100.0%	0.0%	100.0%	100.0%	100.0%	0.0%	100.0%
Column Percent	9.5%	13.6%	11.3%	0.0%	16.7%	6.7%	9.1%	0.0%	8.3%
LIFE SCIENCES	5	2	7	1	0	1	0	1	1
Row Percent	71.4%	28.6%	100.0%	100.0%	0.0%	100.0%	0.0%	100.0%	100.0%
Column Percent	6.8%	3.4%	5.3%	11.1%	0.0%	6.7%	0.0%	100.0%	8.3%
MEDICINE	5	1	6	1	0	1	0	0	0
Row Percent	83.3%	16.7%	100.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	6.8%	1.7%	4.5%	11.1%	0.0%	6.7%	0.0%	0.0%	0.0%
PHARMACY	2	3	5	0	0	0	1	0	1
Row Percent	40.0%	60.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Column Percent	2.7%	5.1%	3.8%	0.0%	0.0%	0.0%	9.1%	0.0%	8.3%
BUSINESS	12	12	24	1	2	3	3	0	3
Row Percent	50.0%	50.0%	100.0%	33.3%	66.7%	100.0%	100.0%	0.0%	100.0%
Column Percent	16.2%	20.3%	18.0%	11.1%	33.3%	20.0%	27.3%	0.0%	25.0%
EDUCATION	1	4	5	0	0	0	0	0	0
Row Percent	20.0%	80.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	1.4%	6.8%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
LAW	2	2	4	0	0	0	0	0	0
Row Percent	50.0%	50.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	2.7%	3.4%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
OTHER	5	5	10	1	0	1	1	0	1
Row Percent	50.0%	50.0%	100.0%	100.0%	0.0%	100.0%	100.0%	0.0%	100.0%
Column Percent	6.8%	8.5%	7.5%	11.1%	0.0%	6.7%	9.1%	0.0%	8.3%
TOTAL	74	59	133	9	6	15	11	1	12
Row Percent	55.6%	44.4%	100.0%	60.0%	40.0%	100.0%	91.7%	8.3%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE C-2

BACHELORS CHEMISTRY GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1987
according to FIELD OF ADVANCED STUDIES and whether graduate completed
ACS APPROVED CURRICULUM
1987 Starting Salary Survey

	CURRICULUM APPROVED?		
	YES	NO	TOTAL
STUDY FIELD			
CHEMISTRY	20	13	33
Row Percent	60.6%	39.4%	100.0%
Column Percent	37.0%	16.3%	24.6%
OTHER PHYSICAL SCIENCE	5	5	10
Row Percent	50.0%	50.0%	100.0%
Column Percent	9.3%	6.3%	7.5%
CHEMICAL ENGINEERING	3	3	6
Row Percent	50.0%	50.0%	100.0%
Column Percent	5.6%	3.8%	4.5%
OTHER ENGINEERING	3	5	8
Row Percent	37.5%	62.5%	100.0%
Column Percent	5.6%	6.3%	6.0%
BIOCHEMISTRY	6	9	15
Row Percent	40.0%	60.0%	100.0%
Column Percent	11.1%	11.3%	11.2%
LIFE SCIENCES	2	5	7
Row Percent	28.6%	71.4%	100.0%
Column Percent	3.7%	6.3%	5.2%
MEDICINE	1	5	6
Row Percent	16.7%	83.3%	100.0%
Column Percent	1.9%	6.3%	4.5%
PHARMACY	3	3	6
Row Percent	50.0%	50.0%	100.0%
Column Percent	5.6%	3.8%	4.5%
BUSINESS	7	17	24
Row Percent	29.2%	70.8%	100.0%
Column Percent	13.0%	21.3%	17.9%
EDUCATION	2	3	5
Row Percent	40.0%	60.0%	100.0%
Column Percent	3.7%	3.8%	3.7%
LAW	0	4	4
Row Percent	0.0%	100.0%	100.0%
Column Percent	0.0%	5.0%	3.0%
OTHER	2	8	10
Row Percent	20.0%	80.0%	100.0%
Column Percent	3.7%	10.0%	7.5%
TOTAL	54	80	134
Row Percent	40.3%	59.7%	100.0%
Column Percent	100.0%	100.0%	100.0%

TABLE C-3

CHEMICAL ENGINEERING GRADUATES WHO PLAN PART-TIME STUDIES IN FALL 1987
according to FIELD OF ADVANCED STUDY, SEX, and DEGREE
1987 Starting Salary Survey

	BACHELORS			MASTERS		
	SEX					
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
STUDY FIELD						
CHEMISTRY	0	3	3	0	0	0
Row Percent	0.0%	100.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	0.0%	12.5%	3.4%	0.0%	0.0%	0.0%
OTHER PHYSICAL SCIENCE	3	0	3	0	0	0
Row Percent	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	4.6%	0.0%	3.4%	0.0%	0.0%	0.0%
CHEMICAL ENGINEERING	23	7	30	4	2	6
Row Percent	76.7%	23.3%	100.0%	66.7%	33.3%	100.0%
Column Percent	35.4%	29.2%	33.7%	36.4%	100.0%	46.2%
OTHER ENGINEERING	8	4	12	0	0	0
Row Percent	66.7%	33.3%	100.0%	0.0%	0.0%	0.0%
Column Percent	12.3%	16.7%	13.5%	0.0%	0.0%	0.0%
BIOCHEMISTRY	1	0	1	1	0	1
Row Percent	100.0%	0.0%	100.0%	100.0%	0.0%	100.0%
Column Percent	1.5%	0.0%	1.1%	9.1%	0.0%	7.7%
MEDICINE	0	1	1	0	0	0
Row Percent	0.0%	100.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	0.0%	4.2%	1.1%	0.0%	0.0%	0.0%
PHARMACY	1	0	1	0	0	0
Row Percent	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	1.5%	0.0%	1.1%	0.0%	0.0%	0.0%
BUSINESS	23	9	32	6	0	6
Row Percent	71.9%	28.1%	100.0%	100.0%	0.0%	100.0%
Column Percent	35.4%	37.5%	36.0%	54.5%	0.0%	46.2%
EDUCATION	1	0	1	0	0	0
Row Percent	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	1.5%	0.0%	1.1%	0.0%	0.0%	0.0%
LAW	2	0	2	0	0	0
Row Percent	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	3.1%	0.0%	2.2%	0.0%	0.0%	0.0%
OTHER	3	0	3	0	0	0
Row Percent	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	4.6%	0.0%	3.4%	0.0%	0.0%	0.0%
TOTAL	65	24	89	11	2	13
Row Percent	73.0%	27.0%	100.0%	84.6%	15.4%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE C-4

CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1987
according to FIELD OF ADVANCED STUDY, SEX, and DEGREE
1987 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	SEX								
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
STUDY FIELD									
CHEMISTRY	217	115	332	45	16	61	16	0	16
Row Percent	65.4%	34.6%	100.0%	73.8%	26.2%	100.0%	100.0%	0.0%	100.0%
Column Percent	39.7%	37.8%	39.0%	81.8%	64.0%	76.3%	61.5%	0.0%	57.1%
OTHER PHYSICAL SCIENCE	10	4	14	0	0	0	0	0	0
Row Percent	71.4%	28.6%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	1.8%	1.3%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CHEMICAL ENGINEERING	3	2	5	0	0	0	0	0	0
Row Percent	60.0%	40.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	.5%	.7%	.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
OTHER ENGINEERING	4	4	8	1	0	1	0	0	0
Row Percent	50.0%	50.0%	100.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	.7%	1.3%	.9%	1.8%	0.0%	1.3%	0.0%	0.0%	0.0%
BIOCHEMISTRY	39	32	71	4	6	10	5	2	7
Row Percent	54.9%	45.1%	100.0%	40.0%	60.0%	100.0%	71.4%	28.6%	100.0%
Column Percent	7.1%	10.5%	8.3%	7.3%	24.0%	12.5%	19.2%	100.0%	25.0%
LIFE SCIENCES	8	9	17	0	0	0	2	0	2
Row Percent	47.1%	52.9%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Column Percent	1.5%	3.0%	2.0%	0.0%	0.0%	0.0%	7.7%	0.0%	7.1%
MEDICINE	204	90	294	1	1	2	3	0	3
Row Percent	69.4%	30.6%	100.0%	50.0%	50.0%	100.0%	100.0%	0.0%	100.0%
Column Percent	37.3%	29.6%	34.5%	1.8%	4.0%	2.5%	11.5%	0.0%	10.7%
DENTISTRY	20	12	32	0	0	0	0	0	0
Row Percent	62.5%	37.5%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	3.7%	3.9%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PHARMACY	9	14	23	0	0	0	0	0	0
Row Percent	39.1%	60.9%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	1.6%	4.6%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BUSINESS	7	2	9	0	0	0	0	0	0
Row Percent	77.8%	22.2%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	1.3%	.7%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
EDUCATION	4	4	8	1	1	2	0	0	0
Row Percent	50.0%	50.0%	100.0%	50.0%	50.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	.7%	1.3%	.9%	1.8%	4.0%	2.5%	0.0%	0.0%	0.0%
LAW	7	5	12	1	0	1	0	0	0
Row Percent	58.3%	41.7%	100.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	1.3%	1.6%	1.4%	1.8%	0.0%	1.3%	0.0%	0.0%	0.0%
OTHER	15	11	26	0	1	1	0	0	0
Row Percent	57.7%	42.3%	100.0%	0.0%	100.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	2.7%	3.6%	3.1%	0.0%	4.0%	1.3%	0.0%	0.0%	0.0%
TOTAL	547	304	851	55	25	80	26	2	28
Row Percent	64.3%	35.7%	100.0%	68.8%	31.3%	100.0%	92.9%	7.1%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE C-5

BACHELORS CHEMISTRY GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1987
according to FIELD OF ADVANCED STUDIES and whether graduate completed
ACS APPROVED CURRICULUM
1987 Starting Salary Survey

	CURRICULUM APPROVED?		
	YES	NO	TOTAL
STUDY FIELD			
CHEMISTRY	242	91	333
Row Percent	72.7%	27.3%	100.0%
Column Percent	61.1%	19.7%	38.9%
OTHER PHYSICAL SCIENCE	4	10	14
Row Percent	28.6%	71.4%	100.0%
Column Percent	1.0%	2.2%	1.6%
CHEMICAL ENGINEERING	4	1	5
Row Percent	80.0%	20.0%	100.0%
Column Percent	1.0%	.2%	.6%
OTHER ENGINEERING	4	4	8
Row Percent	50.0%	50.0%	100.0%
Column Percent	1.0%	.9%	.9%
BIOCHEMISTRY	28	44	72
Row Percent	38.9%	61.1%	100.0%
Column Percent	7.1%	9.5%	8.4%
LIFE SCIENCES	7	10	17
Row Percent	41.2%	58.8%	100.0%
Column Percent	1.8%	2.2%	2.0%
MEDICINE	75	222	297
Row Percent	25.3%	74.7%	100.0%
Column Percent	18.9%	48.2%	34.7%
DENTISTRY	7	25	32
Row Percent	21.9%	78.1%	100.0%
Column Percent	1.8%	5.4%	3.7%
PHARMACY	9	14	23
Row Percent	39.1%	60.9%	100.0%
Column Percent	2.3%	3.0%	2.7%
BUSINESS	1	8	9
Row Percent	11.1%	88.9%	100.0%
Column Percent	.3%	1.7%	1.1%
EDUCATION	2	6	8
Row Percent	25.0%	75.0%	100.0%
Column Percent	.5%	1.3%	.9%
LAW	5	7	12
Row Percent	41.7%	58.3%	100.0%
Column Percent	1.3%	1.5%	1.4%
OTHER	8	19	27
Row Percent	29.6%	70.4%	100.0%
Column Percent	2.0%	4.1%	3.2%
TOTAL	396	461	857
Row Percent	46.2%	53.8%	100.0%
Column Percent	100.0%	100.0%	100.0%

TABLE C-6

CHEMICAL ENGINEERING GRADUATES WHO PLAN FULL-TIME STUDIES IN FALL 1987
according to FIELD OF ADVANCED STUDY, SEX, and DEGREE
1987 Starting Salary Survey

	BACHELORS			MASTERS		
	SEX					
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
STUDY FIELD						
CHEMISTRY	2	2	4	2	0	2
Row Percent	50.0%	50.0%	100.0%	100.0%	0.0%	100.0%
Column Percent	1.4%	3.7%	2.1%	3.7%	0.0%	3.1%
CHEMICAL ENGINEERING	87	37	124	47	9	56
Row Percent	70.2%	29.8%	100.0%	83.9%	16.1%	100.0%
Column Percent	63.0%	68.5%	64.6%	87.0%	90.0%	87.5%
OTHER ENGINEERING	18	5	23	4	0	4
Row Percent	78.3%	21.7%	100.0%	100.0%	0.0%	100.0%
Column Percent	13.0%	9.3%	12.0%	7.4%	0.0%	6.3%
BIOCHEMISTRY	1	0	1	0	0	0
Row Percent	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	.7%	0.0%	.5%	0.0%	0.0%	0.0%
LIFE SCIENCES	1	0	1	0	0	0
Row Percent	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	.7%	0.0%	.5%	0.0%	0.0%	0.0%
MEDICINE	11	4	15	0	0	0
Row Percent	73.3%	26.7%	100.0%	0.0%	0.0%	0.0%
Column Percent	8.0%	7.4%	7.8%	0.0%	0.0%	0.0%
PHARMACY	2	0	2	0	1	1
Row Percent	100.0%	0.0%	100.0%	0.0%	100.0%	100.0%
Column Percent	1.4%	0.0%	1.0%	0.0%	10.0%	1.6%
BUSINESS	11	0	11	0	0	0
Row Percent	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	8.0%	0.0%	5.7%	0.0%	0.0%	0.0%
EDUCATION	0	1	1	1	0	1
Row Percent	0.0%	100.0%	100.0%	100.0%	0.0%	100.0%
Column Percent	0.0%	1.9%	.5%	1.9%	0.0%	1.6%
LAW	4	4	8	0	0	0
Row Percent	50.0%	50.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	2.9%	7.4%	4.2%	0.0%	0.0%	0.0%
OTHER	1	1	2	0	0	0
Row Percent	50.0%	50.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	.7%	1.9%	1.0%	0.0%	0.0%	0.0%
TOTAL	138	54	192	54	10	64
Row Percent	71.9%	28.1%	100.0%	84.4%	15.6%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE C-7

CHEMISTRY BACHELORS DEGREE RECIPIENTS NOT EMPLOYED and NOT SEEKING EMPLOYMENT according to SEX and PLANS FOR FURTHER STUDIES
1987 Starting Salary Survey

	SEX		
	MEN	WOMEN	TOTAL
FURTHER STUDIES			
NO PLANS	11	7	18
Row Percent	61.1%	38.9%	100.0%
Column Percent	4.3%	5.8%	4.8%
FULL-TIME	240	113	353
Row Percent	68.0%	32.0%	100.0%
Column Percent	93.4%	93.4%	93.4%
PART-TIME	6	1	7
Row Percent	85.7%	14.3%	100.0%
Column Percent	2.3%	.8%	1.9%
TOTAL	257	121	378
Row Percent	68.0%	32.0%	100.0%
Column Percent	100.0%	100.0%	100.0%

TABLE C-8

CHEMICAL ENGINEERING BACHELORS DEGREE RECIPIENTS NOT EMPLOYED and NOT SEEKING EMPLOYMENT according to SEX and PLANS FOR FURTHER STUDIES
1987 Starting Salary Survey

	SEX		
	MEN	WOMEN	TOTAL
FURTHER STUDIES			
NO PLANS	5	1	6
Row Percent	83.3%	16.7%	100.0%
Column Percent	13.2%	10.0%	12.5%
FULL-TIME	31	9	40
Row Percent	77.5%	22.5%	100.0%
Column Percent	81.6%	90.0%	83.3%
PART-TIME	2	0	2
Row Percent	100.0%	0.0%	100.0%
Column Percent	5.3%	0.0%	4.2%
TOTAL	38	10	48
Row Percent	79.2%	20.8%	100.0%
Column Percent	100.0%	100.0%	100.0%

TABLE D-1

CHEMISTRY and CHEMICAL ENGINEERING BACHELOR'S DEGREE RECIPIENTS
according to AGE and SEX
1987 Starting Salary Survey

	CHEMISTRY			CHEMICAL ENGINEERING		
	SEX					
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
AGE CATEGORY						
19	1	0	1	0	1	1
Row Percent	100.0%	0.0%	100.0%	0.0%	100.0%	100.0%
Column Percent	.1%	0.0%	.1%	0.0%	.4%	.1%
20	5	6	11	1	0	1
Row Percent	45.5%	54.5%	100.0%	100.0%	0.0%	100.0%
Column Percent	.5%	.9%	.7%	.2%	0.0%	.1%
21	122	117	240	68	47	115
Row Percent	51.3%	48.8%	100.0%	59.1%	40.9%	100.0%
Column Percent	13.1%	18.1%	15.2%	10.2%	16.8%	12.2%
22	468	340	808	253	125	378
Row Percent	57.9%	42.1%	100.0%	66.9%	33.1%	100.0%
Column Percent	49.9%	52.6%	51.0%	38.1%	44.8%	40.1%
23	163	84	247	212	75	287
Row Percent	66.0%	34.0%	100.0%	73.9%	26.1%	100.0%
Column Percent	17.4%	13.0%	15.6%	31.9%	26.9%	30.4%
24	45	22	67	71	17	88
Row Percent	67.2%	32.8%	100.0%	80.7%	19.3%	100.0%
Column Percent	4.8%	3.4%	4.2%	10.7%	6.1%	9.3%
25	20	15	35	19	5	24
Row Percent	57.1%	42.9%	100.0%	79.2%	20.8%	100.0%
Column Percent	2.1%	2.3%	2.2%	2.9%	1.8%	2.5%
26	24	12	36	14	1	15
Row Percent	66.7%	33.3%	100.0%	93.3%	6.7%	100.0%
Column Percent	2.6%	1.9%	2.3%	2.1%	.4%	1.6%
27	13	4	17	3	1	4
Row Percent	76.5%	23.5%	100.0%	75.0%	25.0%	100.0%
Column Percent	1.4%	.6%	1.1%	.5%	.4%	.4%
28	16	5	21	2	0	2
Row Percent	76.2%	23.8%	100.0%	100.0%	0.0%	100.0%
Column Percent	1.7%	.8%	1.3%	.3%	0.0%	.2%
29	14	7	21	7	3	10
Row Percent	66.7%	33.3%	100.0%	70.0%	30.0%	100.0%
Column Percent	1.5%	1.1%	1.3%	1.1%	1.1%	1.1%
30 to 34	29	21	50	12	2	14
Row Percent	58.0%	42.0%	100.0%	85.7%	14.3%	100.0%
Column Percent	3.1%	3.3%	3.2%	1.8%	.7%	1.5%
35 to 39	12	9	21	1	2	3
Row Percent	57.1%	42.9%	100.0%	33.3%	66.7%	100.0%
Column Percent	1.3%	1.4%	1.3%	.2%	.7%	.3%
40 to 49	4	2	6	0	0	0
Row Percent	66.7%	33.3%	100.0%	0.0%	0.0%	0.0%
Column Percent	.4%	.3%	.4%	0.0%	0.0%	0.0%
50 to 64	0	2	2	1	0	1
Row Percent	0.0%	100.0%	100.0%	100.0%	0.0%	100.0%
Column Percent	0.0%	.3%	.1%	.2%	0.0%	.1%
TOTAL	937	646	1583	664	279	943
Row Percent	59.2%	40.8%	100.0%	70.4%	29.6%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE D-2

CHEMISTRY and CHEMICAL ENGINEERING MASTER'S DEGREE RECIPIENTS
according to AGE and SEX
1987 Starting Salary Survey

	CHEMISTRY			CHEMICAL ENGINEERING		
	SEX					
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
AGE CATEGORY						
21	0	0	0	0	1	1
Row Percent	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Column Percent	0.0%	0.0%	0.0%	0.0%	3.6%	.7%
22	2	0	2	2	0	2
Row Percent	100.0%	0.0%	100.0%	100.0%	0.0%	100.0%
Column Percent	1.5%	0.0%	.9%	1.6%	0.0%	1.3%
23	7	5	12	11	3	14
Row Percent	58.3%	41.7%	100.0%	78.6%	21.4%	100.0%
Column Percent	5.4%	6.0%	5.6%	8.8%	10.7%	9.2%
24	11	15	26	31	3	34
Row Percent	42.3%	57.7%	100.0%	91.2%	8.8%	100.0%
Column Percent	8.5%	18.1%	12.2%	24.8%	10.7%	22.2%
25	13	13	26	19	5	24
Row Percent	50.0%	50.0%	100.0%	79.2%	20.8%	100.0%
Column Percent	10.0%	15.7%	12.2%	15.2%	17.9%	15.7%
26	18	18	36	16	4	20
Row Percent	50.0%	50.0%	100.0%	80.0%	20.0%	100.0%
Column Percent	13.8%	21.7%	16.9%	12.8%	14.3%	13.1%
27	14	4	18	12	6	18
Row Percent	77.8%	22.2%	100.0%	66.7%	33.3%	100.0%
Column Percent	10.8%	4.8%	8.5%	9.6%	21.4%	11.8%
28	13	10	23	5	2	7
Row Percent	56.5%	43.5%	100.0%	71.4%	28.6%	100.0%
Column Percent	10.0%	12.0%	10.8	4.0%	7.1%	4.6%
29	16	2	18	9	0	9
Row Percent	88.9%	11.1%	100.0%	100.0%	0.0%	100.0%
Column Percent	12.3%	2.4%	8.5%	7.2%	0.0%	5.9%
30 to 34	23	8	31	18	3	21
Row Percent	74.2%	25.8%	100.0%	85.7%	14.3%	100.0%
Column Percent	17.7%	9.6%	14.6%	14.4%	10.7%	13.7%
35 to 39	8	3	11	2	1	3
Row Percent	72.7%	27.3%	100.0%	66.7%	33.3%	100.0%
Column Percent	6.2%	3.6%	5.2%	1.6%	3.6%	2.0%
40 to 49	5	4	9	0	0	0
Row Percent	55.6%	44.4%	100.0%	0.0%	0.0%	0.0%
Column Percent	3.8%	4.8%	4.2%	0.0%	0.0%	0.0%
50 to 64	0	1	1	0	0	0
Row Percent	0.0%	100.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	0.0%	1.2%	.5%	0.0%	0.0%	0.0%
TOTAL	130	83	213	125	28	153
Row Percent	61.0%	39.0%	100.0%	81.7%	18.3%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE D-3

CHEMISTRY and CHEMICAL ENGINEERING DOCTORATE'S DEGREE RECIPIENTS
according to AGE and SEX
1987 Starting Salary Survey

	CHEMISTRY			CHEMICAL ENGINEERING		
	SEX					
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
AGE CATEGORY						
23	1	0	1	0	1	1
Row Percent	100.0%	0.0%	100.0%	0.0%	100.0%	100.0%
Column Percent	.4%	0.0%	.3%	0.0%	6.7%	1.0%
25	3	0	3	3	1	4
Row Percent	100.0%	0.0%	100.0%	75.0%	25.0%	100.0%
Column Percent	1.2%	0.0%	.9%	3.5%	6.7%	4.0%
26	15	10	25	4	1	5
Row Percent	60.0%	40.0%	100.0%	80.0%	20.0%	100.0%
Column Percent	6.0%	11.1%	7.3%	4.7%	6.7%	5.0%
27	53	23	76	15	2	17
Row Percent	69.7%	30.3%	100.0%	88.2%	11.8%	100.0%
Column Percent	21.1%	25.6%	22.3%	17.6%	13.3%	17.0%
28	57	13	70	22	1	23
Row Percent	81.4%	18.6%	100.0%	95.7%	4.3%	100.0%
Column Percent	22.7%	14.4%	20.5%	25.9%	6.7%	23.0%
29	36	11	47	13	3	16
Row Percent	76.6%	23.4%	100.0%	81.3%	18.8%	100.0%
Column Percent	14.3%	12.2%	13.8%	15.3%	20.0%	16.0%
30 to 34	62	26	88	24	4	28
Row Percent	70.5%	29.5%	100.0%	85.7%	14.3%	100.0%
Column Percent	24.7%	28.9%	25.8%	28.2%	26.7%	28.0%
35 to 39	19	2	21	4	0	4
Row Percent	90.5%	9.5%	100.0%	100.0%	0.0%	100.0%
Column Percent	7.6%	2.2%	6.2%	4.7%	0.0%	4.0%
40 to 49	4	5	9	0	2	2
Row Percent	44.4%	55.6%	100.0%	0.0%	100.0%	100.0%
Column Percent	1.6%	5.6%	2.6%	0.0%	13.3%	2.0%
50 to 64	1	0	1	0	0	0
Row Percent	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	.4%	0.0%	.3%	0.0%	0.0%	0.0%
TOTAL	251	90	341	85	15	100
Row Percent	73.6%	26.4%	100.0%	85.0%	15.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE D-4

CHEMISTRY POSTDOCTORAL RECIPIENTS
according to AGE and SEX
1987 Starting Salary Survey

	SEX		
	MEN	WOMEN	TOTAL
AGE CATEGORY			
19	1	0	1
Row Percent	100.0%	0.0%	100.0%
Column Percent	.2%	0.0%	.1%
20	1	3	4
Row Percent	25.0%	75.0%	100.0%
Column Percent	.2%	1.2%	.6%
21	43	39	82
Row Percent	52.4%	47.6%	100.0%
Column Percent	9.3%	16.0%	11.6%
22	179	100	279
Row Percent	64.2%	35.8%	100.0%
Column Percent	38.8%	41.0%	39.6%
23	50	19	69
Row Percent	72.5%	27.5%	100.0%
Column Percent	10.8%	7.8%	9.8%
24	11	7	18
Row Percent	61.1%	38.9%	100.0%
Column Percent	2.4%	2.9%	2.6%
25	10	4	14
Row Percent	71.4%	28.6%	100.0%
Column Percent	2.2%	1.6%	2.0%
26	14	16	30
Row Percent	46.7%	53.3%	100.0%
Column Percent	3.0%	6.6%	4.3%
27	36	13	49
Row Percent	73.5%	26.5%	100.0%
Column Percent	7.8%	5.3%	7.0%
28	24	10	34
Row Percent	70.6%	29.4%	100.0%
Column Percent	5.2%	4.1%	4.8%
29	29	9	38
Row Percent	76.3%	23.7%	100.0%
Column Percent	6.3%	3.7%	5.4%
30 to 34	47	18	65
Row Percent	72.3%	27.7%	100.0%
Column Percent	10.2%	7.4%	9.2%
35 to 39	11	4	15
Row Percent	73.3%	26.7%	100.0%
Column Percent	2.4%	1.6%	2.1%
40 to 49	5	1	6
Row Percent	83.3%	16.7%	100.0%
Column Percent	1.1%	.4%	.9%
50 to 64	0	1	1
Row Percent	0.0%	100.0%	100.0%
Column Percent	0.0%	.4%	.1%
TOTAL	461	244	705
Row Percent	65.4%	34.6%	100.0%
Column Percent	100.0%	100.0%	100.0%

TABLE E-1

FULL-TIME EMPLOYED INEXPERIENCED CHEMISTS
according to NUMBER OF JOB OFFERS, SEX, and DEGREE
1987 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	SEX								
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
NUMBER OF FIRM OFFERS									
1	55	65	120	9	8	17	25	12	37
Row Percent	45.8%	54.2%	100.0%	52.9%	47.1%	100.0%	67.6%	32.4%	100.0%
Column Percent	36.9%	44.2%	40.5%	36.0%	26.7%	30.9%	32.5%	40.0%	34.6%
2	33	44	77	10	9	19	27	8	35
Row Percent	42.9%	57.1%	100.0%	52.6%	47.4%	100.0%	77.1%	22.9%	100.0%
Column Percent	22.1%	29.9%	26.0%	40.0%	30.0%	34.5%	35.1%	26.7%	32.7%
3	36	22	58	4	12	16	12	5	17
Row Percent	62.1%	37.9%	100.0%	25.0%	75.0%	100.0%	70.6%	29.4%	100.0%
Column Percent	24.2%	15.0%	19.6%	16.0%	40.0%	29.1%	15.6%	16.7%	15.9%
4	13	8	21	0	1	1	10	2	12
Row Percent	61.9%	38.1%	100.0%	0.0%	100.0%	100.0%	83.3%	16.7%	100.0%
Column Percent	8.7%	5.4%	7.1%	0.0%	3.3%	1.8%	13.0%	6.7%	11.2%
5	3	4	7	1	0	1	2	2	4
Row Percent	42.9%	57.1%	100.0%	100.0%	0.0%	100.0%	50.0%	50.0%	100.0%
Column Percent	2.0%	2.7%	2.4%	4.0%	0.0%	1.8%	2.6%	6.7%	3.7%
6 or 7	5	3	8	1	0	1	1	0	1
Row Percent	62.5%	37.5%	100.0%	100.0%	0.0%	100.0%	100.0%	0.0%	100.0%
Column Percent	3.4%	2.0%	2.7%	4.0%	0.0%	1.8%	1.3%	0.0%	.9%
8 or 9	1	0	1	0	0	0	0	0	0
Row Percent	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	.7%	0.0%	.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10 OR MORE	3	1	4	0	0	0	0	1	1
Row Percent	75.0%	25.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Column Percent	2.0%	.7%	1.4%	0.0%	0.0%	0.0%	0.0%	3.3%	.9%
TOTAL	149	147	296	25	30	55	77	30	107
Row Percent	50.3%	49.7%	100.0%	45.5%	54.5%	100.0%	72.0%	28.0%	100.0%

TABLE E-2

FULL-TIME EMPLOYED EXPERIENCED CHEMISTS
according to NUMBER OF JOB OFFERS, SEX, and DEGREE
1987 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	SEX								
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
NUMBER OF JOB OFFERS									
1	47	24	71	19	6	25	13	6	19
Row Percent	66.2%	33.8%	100.0%	76.0%	24.0%	100.0%	68.4%	31.6%	100.0%
Column Percent	54.0%	33.8%	44.9%	57.6%	50.0%	55.6%	34.2%	46.2%	37.3%
2	17	29	46	12	3	15	7	3	10
Row Percent	37.0%	63.0%	100.0%	80.0%	20.0%	100.0%	70.0%	30.0%	100.0%
Column Percent	19.5%	40.8%	29.1%	36.4%	25.0%	33.3%	18.4%	23.1%	19.6%
3	13	11	24	1	3	4	12	2	14
Row Percent	54.2%	45.8%	100.0%	25.0%	75.0%	100.0%	85.7%	14.3%	100.0%
Column Percent	14.9%	15.5%	15.2%	3.0%	25.0%	8.9%	31.6%	15.4%	27.5%
4	3	4	7	0	0	0	6	1	7
Row Percent	42.9%	57.1%	100.0%	0.0%	0.0%	0.0%	85.7%	14.3%	100.0%
Column Percent	3.4%	5.6%	4.4%	0.0%	0.0%	0.0%	15.8%	7.7%	13.7%
5	3	0	3	1	0	1	0	1	1
Row Percent	100.0%	0.0%	100.0%	100.0%	0.0%	100.0%	0.0%	100.0%	100.0%
Column Percent	3.4%	0.0%	1.9%	3.0%	0.0%	2.2%	0.0%	7.7%	2.0%
6 or 7	3	1	4	0	0	0	0	0	0
Row Percent	75.0%	25.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	3.4%	1.4%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
8 or 9	0	2	2	0	0	0	0	0	0
Row Percent	0.0%	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	0.0%	2.8%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10 OR MORE	1	0	1	0	0	0	0	0	0
Row Percent	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	1.1%	0.0%	.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
TOTAL	87	71	158	33	12	45	38	13	51
Row Percent	55.1%	44.9%	100.0%	73.3%	26.7%	100.0%	74.5%	25.5%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE E-3

FULL-TIME EMPLOYED INEXPERIENCED CHEMICAL ENGINEERS
according to NUMBER OF JOB OFFERS, SEX, and DEGREE
1987 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	SEX								
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
NUMBER OF JOB OFFERS									
1	133	56	189	16	6	22	15	2	17
Row Percent	70.4%	29.6%	100.0%	72.7%	27.3%	100.0%	88.2%	11.8%	100.0%
Column Percent	45.9%	42.7%	44.9%	45.7%	75.0%	51.2%	33.3%	22.2%	31.5%
2	73	31	104	9	0	9	13	2	15
Row Percent	70.2%	29.8%	100.0%	100.0%	0.0%	100.0%	86.7%	13.3%	100.0%
Column Percent	25.2%	23.7%	24.7%	25.7%	0.0%	20.9%	28.9%	22.2%	27.8%
3	42	20	62	8	1	9	11	1	12
Row Percent	67.7%	32.3%	100.0%	88.9%	11.1%	100.0%	91.7%	8.3%	100.0%
Column Percent	14.5%	15.3%	14.7%	22.9%	12.5%	20.9%	24.4%	11.1%	22.2%
4	12	11	23	1	1	2	1	2	3
Row Percent	52.2%	47.8%	100.0%	50.0%	50.0%	100.0%	33.3%	66.7%	100.0%
Column Percent	4.1%	8.4%	5.5%	2.9%	12.5%	4.7%	2.2%	22.2%	5.6%
5	13	4	17	0	0	0	4	0	4
Row Percent	76.5%	23.5%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Column Percent	4.5%	3.1%	4.0%	0.0%	0.0%	0.0%	8.9%	0.0%	7.4%
6 or 7	13	7	20	0	0	0	1	0	1
Row Percent	65.0%	35.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Column Percent	4.5%	5.3%	4.8%	0.0%	0.0%	0.0%	2.2%	0.0%	1.9%
8 or 9	3	1	4	0	0	0	0	1	1
Row Percent	75.0%	25.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Column Percent	1.0%	.8%	1.0%	0.0%	0.0%	0.0%	0.0%	11.1%	1.9%
10 OR MORE	1	1	2	1	0	1	0	1	1
Row Percent	50.0%	50.0%	100.0%	100.0%	0.0%	100.0%	0.0%	100.0%	100.0%
Column Percent	.3%	.8%	.5%	2.9%	0.0%	2.3%	0.0%	11.1%	1.9%
TOTAL	290	131	421	35	8	43	45	9	54
Row Percent	68.9%	31.1%	100.0%	81.4%	18.6%	100.0%	83.3%	16.7%	100.0%

TABLE E-4

FULL-TIME EMPLOYED EXPERIENCED CHEMICAL ENGINEERS
according to NUMBER OF JOB OFFERS, SEX, and DEGREE
1987 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	SEX								
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
NUMBER OF JOB OFFERS									
1	27	18	45	8	5	13	9	1	10
Row Percent	60.0%	40.0%	100.0%	61.5%	38.5%	100.0%	90.0%	10.0%	100.0%
Column Percent	26.0%	40.9%	30.4%	42.1%	83.3%	52.0%	40.9%	33.3%	40.0%
2	31	2	33	6	0	6	8	1	9
Row Percent	93.9%	6.1%	100.0%	100.0%	0.0%	100.0%	88.9%	11.1%	100.0%
Column Percent	29.8%	4.5%	22.3%	31.6%	0.0%	24.0%	36.4%	33.3%	36.0%
3	19	10	29	5	0	5	3	1	4
Row Percent	65.5%	34.5%	100.0%	100.0%	0.0%	100.0%	75.0%	25.0%	100.0%
Column Percent	18.3%	22.7%	19.6%	26.3%	0.0%	20.0%	13.6%	33.3%	16.0%
4	8	7	15	0	1	1	0	0	0
Row Percent	53.3%	46.7%	100.0%	0.0%	100.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	7.7%	15.9%	10.1%	0.0%	16.7%	4.0%	0.0%	0.0%	0.0%
5	7	5	12	0	0	0	1	0	1
Row Percent	58.3%	41.7%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Column Percent	6.7%	11.4%	8.1%	0.0%	0.0%	0.0%	4.5%	0.0%	4.0%
6 or 7	7	0	7	0	0	0	0	0	0
Row Percent	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	6.7%	0.0%	4.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
8 or 9	2	2	4	0	0	0	0	0	0
Row Percent	50.0%	50.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	1.9%	4.5%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10 OR MORE	3	0	3	0	0	0	1	0	1
Row Percent	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Column Percent	2.9%	0.0%	2.0%	0.0%	0.0%	0.0%	4.5%	0.0%	4.0%
TOTAL	104	44	148	19	6	25	22	3	25
Row Percent	70.3%	29.7%	100.0%	76.0%	24.0%	100.0%	88.0%	12.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE I-1

CHEMISTRY GRADUATES
According to CITIZENSHIP, ETHNICITY, and DEGREE
1987 Starting Salary Survey

	BACHELORS							MASTERS							DOCTORATE						
	RACIAL OR ETHNIC GROUP																				
	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN	OTHER	TOTAL	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN	OTHER	TOTAL	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN	OTHER	TOTAL
CITIZENSHIP																					
US NATIVE	1456	24	17	2	14	11	1592	155	3	6	1	3	1	169	266	2	1	0	2	3	273
Row Percent	94.1%	1.6%	1.1%	.1%	2.1%	.7%	100.0%	91.7%	1.8%	3.6%	.6%	1.8%	.6%	100.0%	98.1%	.7%	.4%	0.0%	.7%	0.0%	100.0%
Column Percent	97.6%	82.8%	68.0%	66.7%	60.8%	68.8%	93.5%	93.4%	100.0%	66.7%	100.0%	9.1%	60.0%	78.0%	93.7%	11.1%	25.0%	0.0%	4.3%	0.0%	79.4%
US NATURALIZED	23	3	6	1	41	4	78	3	0	1	0	3	0	7	5	1	2	0	4	1	14
Row Percent	29.5%	3.8%	7.7%	1.3%	52.6%	5.1%	100.0%	42.9%	0.0%	14.3%	0.0%	42.9%	0.0%	100.0%	35.7%	7.1%	14.3%	0.0%	28.6%	7.1%	100.0%
Column Percent	1.6%	10.3%	24.0%	11.1%	60.3%	25.0%	4.9%	1.9%	0.0%	16.7%	0.0%	9.1%	0.0%	3.1%	1.8%	33.3%	50.0%	0.0%	8.7%	50.0%	4.1%
PERMANENT RESIDENT	10	2	2	0	5	1	20	5	0	0	0	6	0	11	2	0	0	0	5	0	7
Row Percent	50.0%	10.0%	10.0%	0.0%	25.0%	5.0%	100.0%	45.5%	0.0%	0.0%	0.0%	54.5%	0.0%	100.0%	28.6%	0.0%	0.0%	0.0%	71.4%	0.0%	100.0%
Column Percent	.7%	6.9%	8.0%	0.0%	5.9%	4.2%	1.3%	3.0%	0.0%	0.0%	0.0%	18.2%	0.0%	3.1%	.7%	0.0%	0.0%	0.0%	10.9%	0.0%	2.0%
OTHER VISA	1	0	0	0	5	0	6	3	0	1	0	21	2	27	10	1	1	0	11	1	24
Row Percent	16.7%	0.0%	0.0%	0.0%	83.3%	0.0%	100.0%	11.1%	0.0%	3.7%	0.0%	77.8%	7.4%	100.0%	41.7%	4.2%	4.2%	0.0%	45.8%	4.2%	100.0%
Column Percent	.1%	0.0%	0.0%	0.0%	5.9%	0.0%	.4%	1.8%	0.0%	16.7%	0.0%	63.6%	66.7%	12.5%	3.5%	33.3%	25.0%	0.0%	76.1%	50.0%	14.1%
TOTAL	1410	29	25	3	85	16	1598	166	3	6	1	33	3	214	283	6	4	0	46	2	341
Row Percent	90.1%	1.8%	1.6%	.2%	5.3%	1.0%	100.0%	77.6%	1.4%	2.8%	.5%	15.4%	1.4%	100.0%	83.0%	1.8%	1.2%	0.0%	13.5%	.6%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%

TABLE F-2

CHEMISTRY GRADUATES
according to CITIZENSHIP, SEX, and DEGREE
1987 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	SEX								
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
CITIZENSHIP									
US NATIVE	880	601	1481	105	63	168	202	68	270
Row Percent	59.4%	40.6%	100.0%	62.5%	37.5%	100.0%	74.8%	25.2%	100.0%
Column Percent	93.9%	92.9%	93.5%	80.8%	75.9%	78.9%	80.5%	75.6%	79.2%
US NATURALIZED	39	38	77	3	4	7	6	8	14
Row Percent	50.6%	49.4%	100.0%	42.9%	57.1%	100.0%	42.9%	57.1%	100.0%
Column Percent	4.2%	5.9%	4.9%	2.3%	4.8%	3.3%	2.4%	8.9%	4.1%
PERMANENT RESIDENT	14	6	20	4	7	11	5	2	7
Row Percent	70.0%	30.0%	100.0%	36.4%	63.6%	100.0%	71.4%	28.6%	100.0%
Column Percent	1.5%	.9%	1.3%	3.1%	8.4%	5.2%	2.0%	2.2%	2.1%
OTHER VISA	4	2	6	18	9	27	38	12	50
Row Percent	66.7%	33.3%	100.0%	66.7%	33.3%	100.0%	76.0%	24.0%	100.0%
Column Percent	.4%	.3%	.4%	13.8%	10.8%	12.7%	15.1%	13.3%	14.7%
TOTAL	937	647	1584	130	83	213	251	90	341
Row Percent	59.2%	40.8%	100.0%	61.0%	39.0%	100.0%	73.6%	26.4%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE F-3

MINORITY CHEMISTRY GRADUATES
according to MINORITY CLASSIFICATION, SEX, AND DEGREE
1987 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	SEX								
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
MINORITY CLASSIFICATION									
BLACK	12	17	29	2	1	3	4	2	6
Row Percent	41.4%	58.6%	100.0%	66.7%	33.3%	100.0%	66.7%	33.3%	100.0%
Column Percent	15.4%	21.8%	18.6%	6.5%	5.9%	6.3%	10.5%	10.0%	10.3%
HISPANIC	15	9	24	5	1	6	1	3	4
Row Percent	62.5%	37.5%	100.0%	83.3%	16.7%	100.0%	25.0%	75.0%	100.0%
Column Percent	19.2%	11.5%	15.4%	16.1%	5.9%	12.5%	2.6%	15.0%	6.9%
AMER INDIAN	2	1	3	1	0	1	0	0	0
Row Percent	66.7%	33.3%	100.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Column Percent	2.6%	1.3%	1.9%	3.2%	0.0%	2.1%	0.0%	0.0%	0.0%
ASIAN	40	44	84	21	12	33	32	14	46
Row Percent	47.6%	52.4%	100.0%	63.6%	36.4%	100.0%	69.6%	30.4%	100.0%
Column Percent	51.3%	56.4%	53.8%	67.7%	70.6%	68.8%	84.2%	70.0%	79.3%
OTHER	9	7	16	2	3	5	1	1	2
Row Percent	56.3%	43.8%	100.0%	40.0%	60.0%	100.0%	50.0%	50.0%	100.0%
Column Percent	11.5%	9.0%	10.3%	6.5%	17.6%	10.4%	2.6%	5.0%	3.4%
TOTAL	78	78	156	31	17	48	38	20	58
Row Percent	50.0%	50.0%	100.0%	64.6%	35.4%	100.0%	65.5%	34.5%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE F-4

CHEMICAL ENGINEERING GRADUATES
according to CITIZENSHIP, ETHNICITY, and DEGREE
1987 Starting Salary Survey

	BACHELORS							MASTERS							DOCTORATE						
	MINORITY CLASSIFICATION																				
	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN	OTHER	TOTAL	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN	OTHER	TOTAL	WHITE	BLACK	HISPANIC	AMER INDIAN	ASIAN	OTHER	TOTAL
CITIZENSHIP																					
US NATIVE	843	13	10	1	27	5	899	102	1	4	0	4	0	111	65	1	1	0	2	1	70
Row Percent	93.8%	1.4%	1.1%	.1%	3.0%	.6%	100.0%	91.9%	.9%	3.6%	0.0%	3.6%	0.0%	100.0%	92.9%	1.4%	1.4%	0.0%	2.9%	1.4%	100.0%
Column Percent	98.1%	92.9%	66.7%	100.0%	52.9%	83.3%	95.0%	85.7%	50.0%	80.0%	0.0%	15.4%	0.0%	72.1%	91.5%	50.0%	100.0%	0.0%	9.1%	25.0%	70.0%
US NATURALIZED	8	0	3	0	17	0	28	2	0	0	0	5	0	7	1	1	0	0	1	0	3
Row Percent	28.6%	0.0%	10.7%	0.0%	60.7%	0.0%	100.0%	28.6%	0.0%	0.0%	0.0%	71.4%	0.0%	100.0%	33.3%	33.3%	0.0%	0.0%	33.3%	0.0%	100.0%
Column Percent	.9%	0.0%	20.0%	0.0%	33.3%	0.0%	3.0%	1.7%	0.0%	0.0%	0.0%	19.2%	0.0%	4.5%	1.4%	50.0%	0.0%	0.0%	4.5%	0.0%	3.0%
PERMANENT RESIDENT	6	1	1	0	5	0	13	3	1	1	0	4	0	9	2	0	0	0	5	0	7
Row Percent	46.2%	7.7%	7.7%	0.0%	38.5%	0.0%	100.0%	33.3%	11.1%	11.1%	0.0%	44.4%	0.0%	100.0%	28.6%	0.0%	0.0%	0.0%	71.4%	0.0%	100.0%
Column Percent	.7%	7.1%	6.7%	0.0%	9.8%	0.0%	1.4%	2.5%	50.0%	20.0%	0.0%	15.4%	0.0%	5.8%	2.8%	0.0%	0.0%	0.0%	22.7%	0.0%	7.0%
OTHER VISA	2	0	1	0	2	1	6	12	0	0	0	13	2	27	3	0	0	0	14	3	20
Row Percent	33.3%	0.0%	16.7%	0.0%	33.3%	16.7%	100.0%	44.4%	0.0%	0.0%	0.0%	48.1%	7.4%	100.0%	15.0%	0.0%	0.0%	0.0%	70.0%	15.0%	100.0%
Column Percent	.2%	0.0%	6.7%	0.0%	3.9%	16.7%	.6%	10.1%	0.0%	0.0%	0.0%	50.0%	100.0%	17.5%	4.2%	0.0%	0.0%	0.0%	63.6%	75.0%	20.0%
TOTAL	859	14	15	1	51	6	946	119	2	5	0	26	2	154	71	2	1	0	22	4	100
Row Percent	90.8%	1.5%	1.6%	.1%	5.4%	.6%	100.0%	77.3%	1.3%	3.2%	0.0%	16.9%	1.3%	100.0%	71.0%	2.0%	1.0%	0.0%	22.0%	4.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%

TABLE F-5

CHEMICAL ENGINEERING GRADUATES
according to CITIZENSHIP, SEX, and DEGREE
1987 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	SEX								
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
CITIZENSHIP									
US NATIVE	629	267	896	84	26	110	59	11	70
Row Percent	70.2%	29.8%	100.0%	76.4%	23.6%	100.0%	84.3%	15.7%	100.0%
Column Percent	94.7%	95.7%	95.0%	67.2%	92.9%	71.9%	69.4%	73.3%	70.0%
US NATURALIZED	21	7	28	7	0	7	2	1	3
Row Percent	75.0%	25.0%	100.0%	100.0%	0.0%	100.0%	66.7%	33.3%	100.0%
Column Percent	3.2%	2.5%	3.0%	5.6%	0.0%	4.6%	2.4%	6.7%	3.0%
PERMANENT RESIDENT	8	5	13	9	0	9	6	1	7
Row Percent	61.5%	38.5%	100.0%	100.0%	0.0%	100.0%	85.7%	14.3%	100.0%
Column Percent	1.2%	1.8%	1.4%	7.2%	0.0%	5.9%	7.1%	6.7%	7.0%
OTHER VISA	6	0	6	25	2	27	18	2	20
Row Percent	100.0%	0.0%	100.0%	92.6%	7.4%	100.0%	90.0%	10.0%	100.0%
Column Percent	.9%	0.0%	.6%	20.0%	7.1%	17.6%	21.2%	13.3%	20.0%
TOTAL	664	279	943	125	28	153	85	15	100
Row Percent	70.4%	29.6%	100.0%	81.7%	18.3%	100.0%	85.0%	15.0%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE F-6

MINORITY CHEMICAL ENGINEERING GRADUATES
according to MINORITY CLASSIFICATION, SEX, AND DEGREE
1987 Starting Salary Survey

	BACHELORS			MASTERS			DOCTORATE		
	SEX								
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
RACIAL OR ETHNIC GROUP									
BLACK	7	7	14	1	1	2	1	1	2
Row Percent	50.0%	50.0%	100.0%	50.0%	50.0%	100.0%	50.0%	50.0%	100.0%
Column Percent	11.7%	25.9%	16.1%	3.2%	25.0%	5.7%	4.2%	20.0%	6.9%
HISPANIC	14	1	15	3	2	5	1	0	1
Row Percent	93.3%	6.7%	100.0%	60.0%	40.0%	100.0%	100.0%	0.0%	100.0%
Column Percent	23.3%	3.7%	17.2%	9.7%	50.0%	14.3%	4.2%	0.0%	3.4%
AMER INDIAN	1	0	1	0	0	0	0	0	0
Row Percent	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Column Percent	1.7%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
ASIAN	33	18	51	25	1	26	18	4	22
Row Percent	64.7%	35.3%	100.0%	96.2%	3.8%	100.0%	81.8%	18.2%	100.0%
Column Percent	55.0%	66.7%	58.6%	80.6%	25.0%	74.3%	75.0%	80.0%	75.9%
OTHER	5	1	6	2	0	2	4	0	4
Row Percent	83.3%	16.7%	100.0%	100.0%	0.0%	100.0%	100.0%	0.0%	100.0%
Column Percent	8.3%	3.7%	6.9%	6.5%	0.0%	5.7%	16.7%	0.0%	13.8%
TOTAL	60	27	87	31	4	35	24	5	29
Row Percent	69.0%	31.0%	100.0%	88.6%	11.4%	100.0%	82.8%	17.2%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

AMERICAN CHEMICAL SOCIETY

Survey of Starting Salaries and Employment Status of 1987 Chemistry and Chemical Engineering Graduates

Every year the American Chemical Society conducts a mail survey of persons who have recently earned degrees in chemistry or chemical engineering. Published results, which include information about salaries and employment, are useful to the profession and especially to those beginning their careers.

Please complete this questionnaire and return it in the enclosed postage-paid envelope.

Preliminary results of this survey will appear this fall in the *Chemical and Engineering News* Career Issue. The American Chemical Society will publish a complete report later in the year.

MARKING INSTRUCTIONS

- **Read each question carefully.**
- **Make a solid BLACK MARK that fills the circle.**
- **Do not make stray marks of any kind.**
- **Use a number 2 pencil only.**
- **The ONLY CORRECT MARK:** ○●
- **INCORRECT MARKS:** ⊗ ◶ ◒ ⊙ ⊘

1. Highest degree earned:

- ○ Bachelor's
- ○ Master's
- ○ Doctorate

2. Field of highest degree:

- ○ Chemical engineering
- ○ Biochemistry
- ○ Analytical chemistry
- ○ Inorganic chemistry
- ○ Organic chemistry
- ○ Physical chemistry
- ○ Polymer chemistry
- ○ Other chemistry
- ○ Other

3. Professional or technical work experience prior to graduation:

- ○ Less than 12 months (or none)
- ○ 12 to 36 months
- ○ More than 36 months

4. Age at last birthday:

Write your age in the boxes provided. ⟶

Then, mark the matching circle below each box.

5. Sex:

- ○ Male
- ○ Female

6. Citizenship or visa status:

- ○ U.S. native
- ○ U.S. naturalized
- ○ U.S. permanent resident visa
- ○ Other visa

7. Racial or ethnic group:

- ○ White (not of Hispanic origin)
- ○ Black (not of Hispanic origin)
- ○ Hispanic
- ○ American Indian or Alaskan Native
- ○ Asian or Pacific Islander
- ○ Other race or ethnic group

8. Will you pursue advanced studies in the fall of 1987?

- ○ No
- ○ Yes, full-time
- ○ Yes, part-time

If yes, field of further studies:

- ○ Chemistry
- ○ Other physical science or math
- ○ Chemical engineering
- ○ Other engineering
- ○ Biochemistry
- ○ Life science
- ○ Medicine
- ○ Dentistry
- ○ Pharmacy, pharmacology
- ○ Business management
- ○ Education
- ○ Law
- ○ Other

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9. **Current employment status:**

- ○ Accepted or continuing full-time employment (excluding summer employment).
- ○ Accepted a graduate assistantship, a fellowship or a postdoctoral fellowship.
- ○ Not employed, employed part-time or for summer only and seeking full-time year-round employment.
- ○ Not employed, employed part-time or for summer only and not seeking full-time, year-round employment.

→ **IF YOU MARKED EITHER OF THE LAST TWO RESPONSES, PLEASE STOP HERE AND RETURN THE QUESTIONNAIRE IN THE ENVELOPE PROVIDED.**

10. **Your annual salary:** Enter your annual salary rounded to the nearest hundred dollars. For example, if your annual salary is $25,625, enter 256; if your annual salary is $28,775, enter 288.

Write your annual salary in the boxes provided. → $ ___,___,0 0

Then, mark the matching circle below each box.

	○	○	○	
	①	①	①	
	②	②	②	
	③	③	③	
	④	④	④	
	⑤	⑤	⑤	
	⑥	⑥	⑥	
	⑦	⑦	⑦	
	⑧	⑧	⑧	
	⑨	⑨	⑨	

IF YOU HOLD AN ASSISTANTSHIP OR FELLOWSHIP, PLEASE STOP HERE AND RETURN THE QUESTIONNAIRE IN THE ENVELOPE PROVIDED.

11. **How many firm offers of employment did you receive in a field of chemistry or chemical engineering?**

Write the number of offers in the boxes provided. →

Then, mark the matching circle below each box.

○	○
①	①
②	②
③	③
④	④
	⑤
	⑥
	⑦
	⑧
	⑨

12. **Mark the one specialty most related to your job:**

- ○ Chemical engineering
- ○ Chemistry (including biochemistry)
- ○ Other

13. **How long have you been working for your current employer?**

- ○ 12 months or less
- ○ More than 12 months

14. **Mark the one category that best describes your employer:**

- ○ Private industry
- ○ College or university
- ○ High school or other school
- ○ Federal government (civilians only)
- ○ Military
- ○ State or local government
- ○ Hospital or independent laboratory
- ○ Other

COMMENTS

If you have any comments, please write them here. If you need more space, please use additional sheets of paper.

THANK YOU FOR YOUR PARTICIPATION.
PLEASE RETURN THIS QUESTIONNAIRE IN THE ENVELOPE PROVIDED TO:

ACS STATISTICAL SERVICES
Room 202, 1155 16th Street NW, Washington, DC 20036

ACS OFFICE OF STATISTICAL SERVICES PUBLICATIONS

Salaries: The Office of Statistical Services annually surveys the ACS membership, gathering detailed information on member chemists and chemical engineers. The reports based on this survey contain statistical tables describing the respondents' employment status, employer, work function and specialty, salaries, and demographic characteristics.

Reports are available for each year from 1973 through the current year. In 1987, four separate reports are available: *1987 Salaries of Non- Academic Chemists, 1987 Salaries of Non-Academic Chemical Engineers, 1987 Salaries of Academic Chemists,* and *1987 Employment Status and Demographic Characteristics of ACS Members.*

Starting Salaries: The Office of Statistical Services also surveys new graduates in chemistry and chemical engineering each summer, and publishes reports detailing the graduates' employment status, post-graduation plans, starting salaries, and other employment and demographic characteristics.

Reports are available for each year from 1975 through the current year.

Professionals in Chemistry: The *Professionals in Chemistry* series compiles information concerning chemists and chemical engineers from ACS, government, and private industry sources. It details information on demography, employment, salaries, education, and supply and demand for the entire chemical profession.

Reports are available for each year from 1975 through 1978, and combined reports for 1979-1980, 1981-82, 1983-84, and 1985-86.

Special Reports:

1975 Report of Chemists' Salaries and Employment Status Supplement: Economic Status of Women in the ACS.

Women Chemists 1980: A supplemental report on the ACS's 1980 Survey of Salaries and Employment.

Women Chemists 1985: A supplemental report on the ACS's 1985 Survey of Salaries and Employment.

For prices and ordering information, please call or write:

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American Chemical Society
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Statistical Services
American Chemical Society
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